DENO-00393

DENON

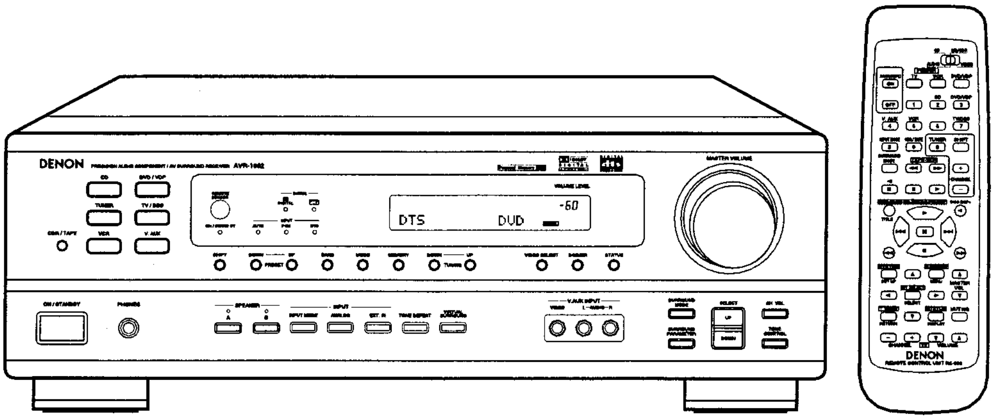
**For U.S.A., Canada, Europe, Asia, China, Hong Kong & Taiwan R.O.C. model**

Hi-Fi Component

# SERVICE MANUAL

# MODEL AVR-1602/682

## AV SURROUND RECEIVER



● Some illustrations using in this service manual are slightly different from the actual set.

**NIPPON COLUMBIA CO., LTD.**

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Telephone: 03 (3584) 8111

## SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

## LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

# SPECIFICATIONS

## ■ Audio Section

### Power Amplifier

| | | | |
|---|---|---|---|
| **Rated output:** | Front: | 70W+70W | (8Ω/ohms, 20Hz~20kHz with 0.08% T.H.D ) |
| | | 100W+100W | (6Ω/ohms, 1kHz with 0.7% T.H.D ) (U.S.A., Canada & Europe Models) |
| | | 110W+110W | (6Ω/ohms, EIAJ ) (Asia Model) |
| | Center: | 70W | (8Ω/ohms, 20Hz~20kHz with 0.08% T.H.D ) |
| | | 100W | (6Ω/ohms, 1kHz with 0.7% T.H.D ) (U.S.A., Canada & Europe Models) |
| | | 110W | (6Ω/ohms, EIAJ ) (Asia Model) |
| | Surround: | 70W+70W | (8Ω/ohms, 20Hz~20kHz with 0.08% T.H.D ) |
| | | 100W+100W | (6Ω/ohms, 1kHz with 0.7% T.H.D ) (U.S.A., Canada & Europe Models) |
| | | 110W+110W | (6Ω/ohms, EIAJ ) (Asia Model) |
| **Output terminals:** | Front: | A or B | 6 to 16W/ohms |
| | | A+B | 12 to 16W/ohms |
| | Center/Surround: | | 6 to 16W/ohms |

### Analog

**LINE input - PRE OUT**

| | | |
|---|---|---|
| **Input sensitivity/input impedance:** | 200mV/47kΩ/kohms | |
| **Frequency response:** | 10Hz~100kHz: +1, -3dB | (TONE DEFEAT ON) |
| **S/N ratio:** | 98dB (IHF-A weighted) | (TONE DEFEAT ON) |

## ■ Video Section

### Standard video jacks

| | |
|---|---|
| **Input/output level and impedance:** | 1Vp-p,75Ω/ohms |
| **Frequency response:** | 5Hz~10MHz — +1, -3dB |

### S-video jacks (U.S.A., Canada & Asia Models)

| | |
|---|---|
| **Input/output level and impedance:** | Y(brightness)signal — 1Vp-p, 75Ω/ohms<br>C(color)signal — 0.286Vp-p, 75Ω/ohms |
| **Frequency response:** | 5Hz~10MHz: — +1, -3dB |

## ■ Tuner section

| | | |
|---|---|---|
| **Receiving range:** | **[FM]** (note: μV at 75Ω/ohms, 0dBf =$1\times10^{-15}$W) | **[AM]** |
| U.S.A., Canada Models: | 87.50MHz~107.90MHz | 520kHz~1710kHz |
| Europe & Asia (for China) Models: | 87.50MHz~108.00MHz | 522kHz~1611kHz |
| Asia (for Multiple voltage) Models: | 87.50MHz~107.90MHz (0.2MHz steps) | 520kHz~1710kHz (10kHz steps) |
| | 87.50MHz~108.00MHz (0.05MHz steps) | 522kHz~1611kHz (9kHz steps) |
| **Usable sensitivity:** | 1.0μV (11.2dBf) | 18μV |
| **50 dB quieting sensitivity:** | MONO 1.6μV (15.3dBf) | |
| | STEREO 23μV (38.5dBf) | |
| **S/N ratio:** | MONO 80dB (IHF-A weighted) | |
| | STEREO 75dB (IHF-A weighted) | |
| **Total harmonic distortion:** | MONO 0.15% (1kHz) | |
| | STEREO 0.3% (1kHz) | |

## ■ General

| | |
|---|---|
| **Power supply:** | |
| U.S.A., Canada Models | AC120V,60Hz |
| Europe Model | AC230V,50Hz |
| Asia(for Multiple voltage)Model | AC115/230V,50/60Hz |
| Asia(for China)Model | AC220V,50Hz |
| **Power consumption:** | 3.7A (USA & Canada model), 200W (Europe & Asia model) |
| **Maximum external dimensions:** | 434 (W) × 147 (H) × 417 (D) mm (17-3/32″ × 5-25/32″ × 16-7/16″) |
| **Mass:** | 9.8kg (20 lbs 9.7 oz) |

## ■ Remote control unit (RC-896)

| | |
|---|---|
| **Batteries:** | R6P/AA Type (two batteries) |
| **External dimensions:** | 54 (W) × 172.5 (H) × 29 (D) mm (2-1/8″ × 6-51/64″ × 1-9/64″) |
| **Mass:** | 120g (Approx. 4.2 oz) (including batteries) |

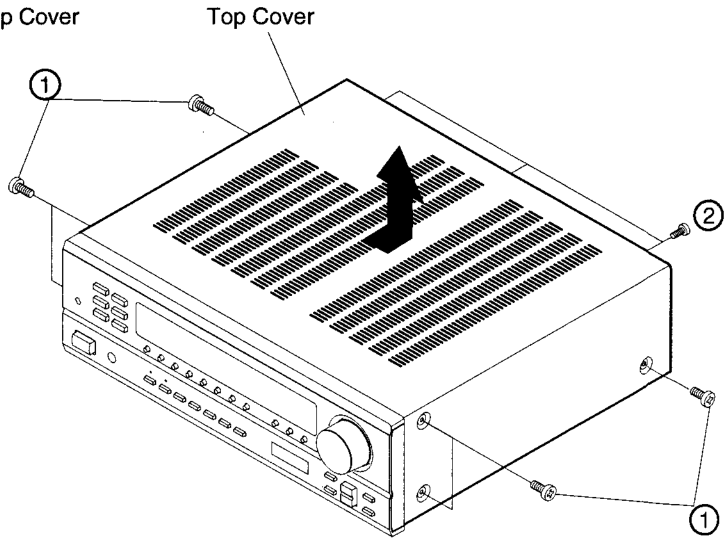
* For purposes of improvement, specifications and design are subject to change without notice.

# DISASSEMBLY

(Follow the procedure below in reverse order when reassembling)

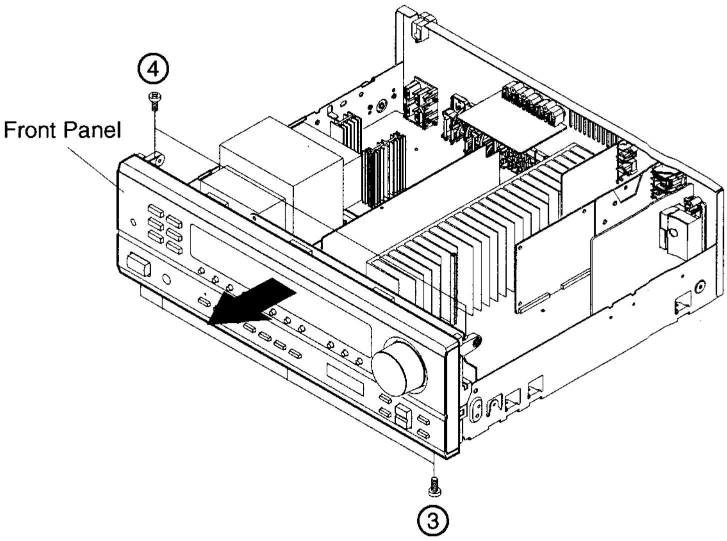
## Top Cover

Remove 6 screws ① and 3 screws ②, detach the Top Cover in the arrow direction.



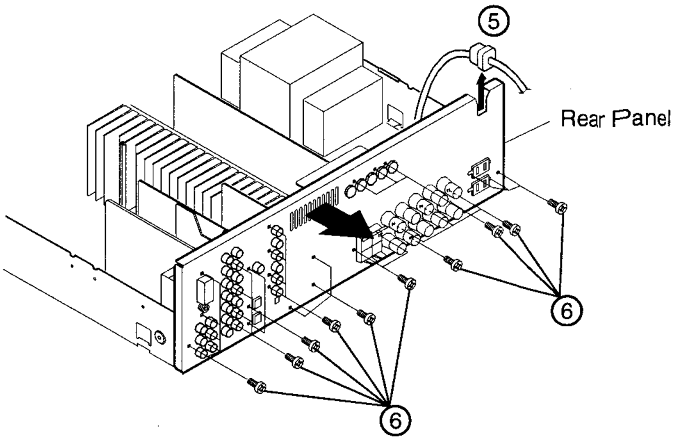
## Front Panel

1. Remove 4 screws ③ and 2 screws ④.
2. Detach the Front Panel in the arrow direction.



## Rear Panel

1. Remove cord bushing ⑤ from the Rear Panel.
2. Remove 31 screws ⑥.
3. Detach the Rear Panel in the arrow direction.



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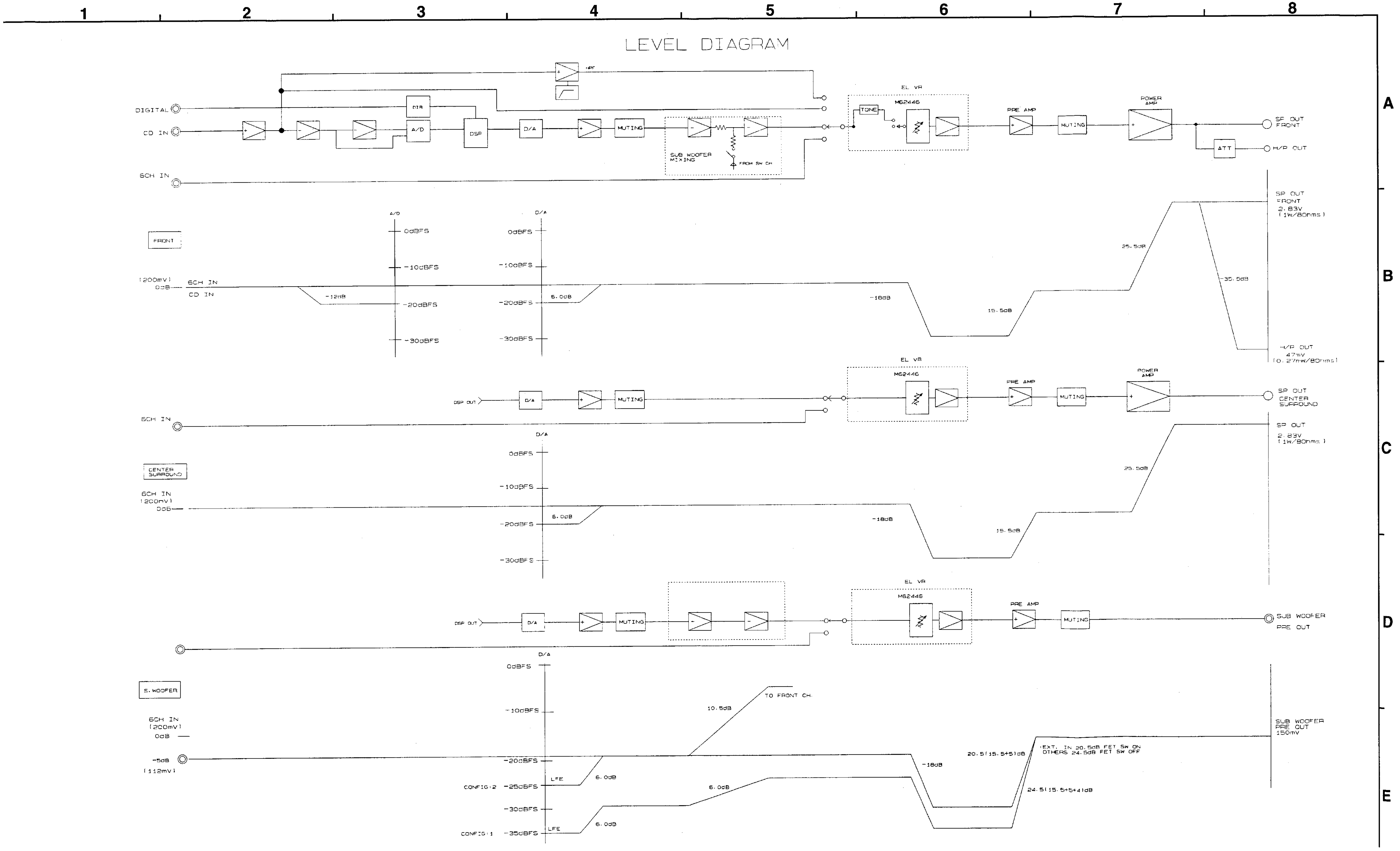
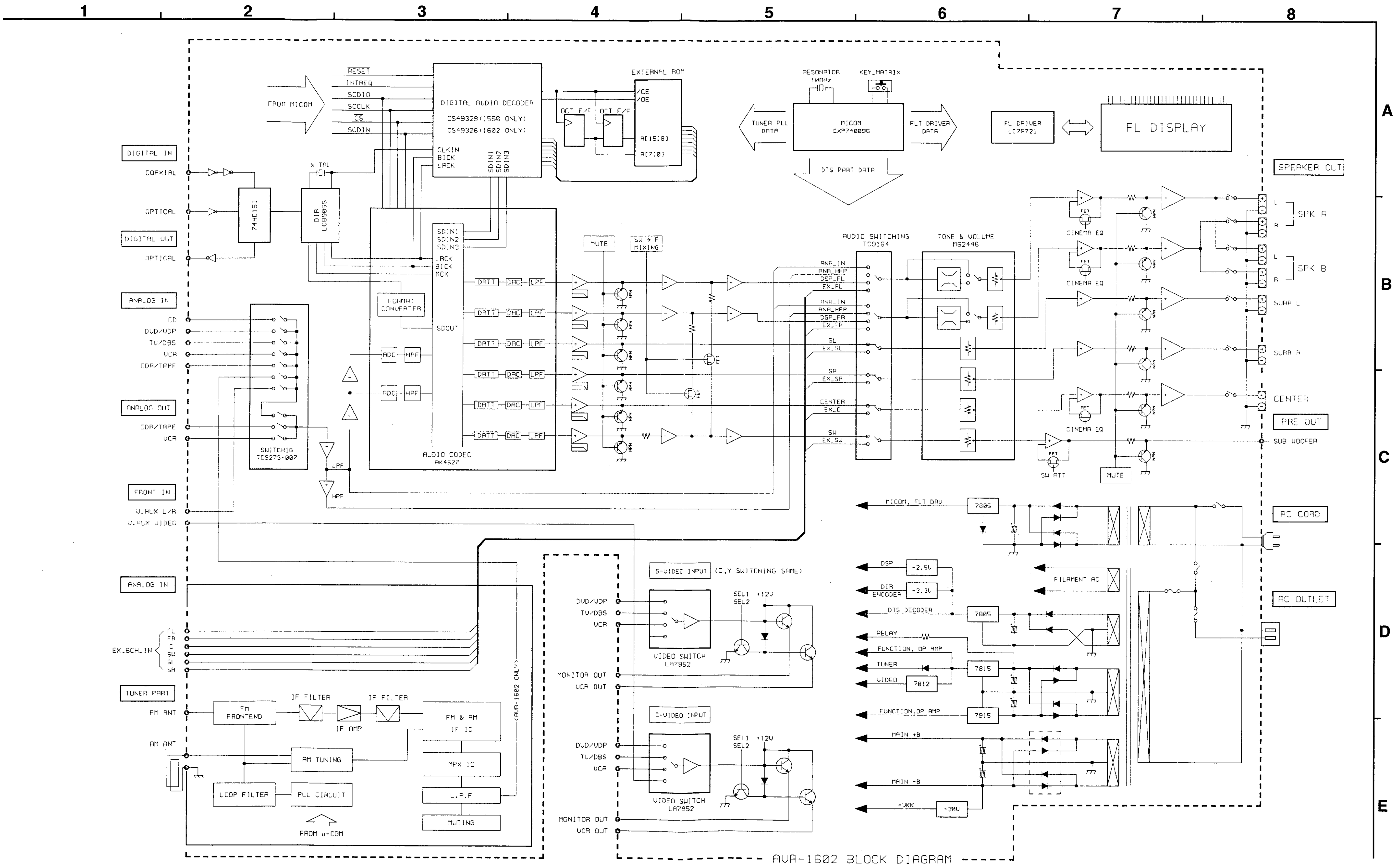
# LEVEL DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
LEVEL DIAGRAM
HPF
DIGITAL
CD IN
6CH IN
DIR
A/D
DSP
D/A
MUTING
SUB WOOFER MIXING
FROM SW CH
EL VR
M62446
TONE
PRE AMP
MUTING
POWER AMP
SP OUT FRONT
ATT
H/P OUT
FRONT
(200mV) 0dB
6CH IN
CD IN
-12dB
A/D
0dBFS
-10dBFS
-20dBFS
-30dBFS
D/A
6.0dB
-18dB
15.5dB
25.5dB
-35.5dB
SP OUT FRONT 2.83V (1W/8Ohms)
H/P OUT 47mV (0.27mW/8Ohms)
DSP OUT
SP OUT CENTER SURROUND
SP OUT 2.83V (1W/8Ohms)
CENTER SURROUND
6CH IN (200mV) 0dB
SUB WOOFER PRE OUT
S.WOOFER
6CH IN (200mV) 0dB
-5dB (112mV)
10.5dB
TO FRONT CH.
LFE
CONFIG:2
CONFIG:1
-25dBFS
-35dBFS
20.5(15.5+5)dB
24.5(15.5+5+4)dB
(EXT. IN 20.5dB FET SW ON OTHERS 24.5dB FET SW OFF
SUB WOOFER PRE OUT 150mV

## BLOCK DIAGRAM

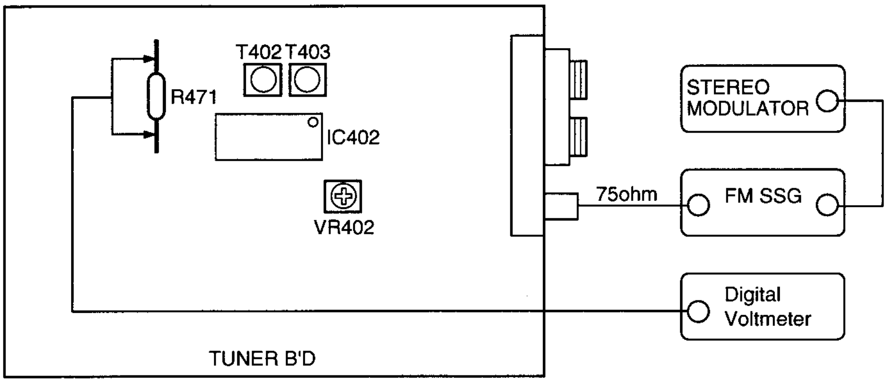

1
2
3
4
5
6
7
8
A
B
C
D
E
FROM MICOM
RESET
INTREQ
SCDIO
SCCLK
CS
SCDIN
DIGITAL AUDIO DECODER
CS49329(1550 ONLY)
CS49326(1602 ONLY)
CLKIN
BICK
LRCK
SDIN1
SDIN2
SDIN3
OCT F/F
OCT F/F
EXTERNAL ROM
/CE
/OE
A[15:8]
A[7:0]
RESONATOR
10MHz
KEY_MATRIX
TUNER PLL DATA
MICOM
CXP740096
FLT DRIVER DATA
DTS PART DATA
FL DRIVER
LC75721
FL DISPLAY
DIGITAL IN
COAXIAL
OPTICAL
DIGITAL OUT
OPTICAL
X-TAL
74HC151
DIR
LC89055
ANALOG IN
CD
DVD/VDP
TV/DBS
VCR
CDR/TAPE
ANALOG OUT
CDR/TAPE
VCR
SWITCHIG
TC9273-007
LPF
HPF
FRONT IN
V.AUX L/R
V.AUX VIDEO
SDIN1
SDIN2
SDIN3
LRCK
BICK
MCK
FORMAT CONVERTER
SDOUT
ADC
HPF
ADC
HPF
DATT
DAC
LPF
AUDIO CODEC
AK4527
MUTE
SW → F MIXING
NPN
FET
AUDIO SWITCHING
TC9164
ANA_IN
ANA_HFP
DSP_FL
EX_FL
ANA_IN
ANA_HFP
DSP_FR
EX_FR
SL
EX_SL
SR
EX_SR
CENTER
EX_C
SW
EX_SW
TONE & VOLUME
M62446
CINEMA EQ
CINEMA EQ
CINEMA EQ
SW ATT
MUTE
SPEAKER OUT
L
R
SPK A
L
R
SPK B
SURR L
SURR R
CENTER
PRE OUT
SUB WOOFER
ANALOG IN
EX_6CH_IN
FL
FR
C
SW
SL
SR
TUNER PART
FM ANT
AM ANT
FM FRONTEND
IF FILTER
IF AMP
IF FILTER
FM & AM IF IC
AM TUNING
MPX IC
LOOP FILTER
PLL CIRCUIT
L.P.F
MUTING
FROM u-COM
(AVR-1602 ONLY)
S-VIDEO INPUT
(C,Y SWITCHING SAME)
DVD/VDP
TV/DBS
VCR
VIDEO SWITCH
LA7952
SEL1
SEL2
+12V
MONITOR OUT
VCR OUT
C-VIDEO INPUT
DVD/VDP
TV/DBS
VCR
VIDEO SWITCH
LA7952
SEL1
SEL2
+12V
MONITOR OUT
VCR OUT
MICOM, FLT DRV
7805
AC CORD
DSP
+2.5V
DIR
ENCODER
+3.3V
FILAMENT AC
AC OUTLET
DTS DECODER
7805
RELAY
FUNCTION, OP AMP
TUNER
7815
VIDEO
7812
FUNCTION,OP AMP
7915
MAIN +B
MAIN -B
-VKK
-30V
AVR-1602 BLOCK DIAGRAM

# ADJUSTMENT

## Tuner Section

### CONNECTION DIAGRAM OF MEASURING INSTRUMENTS

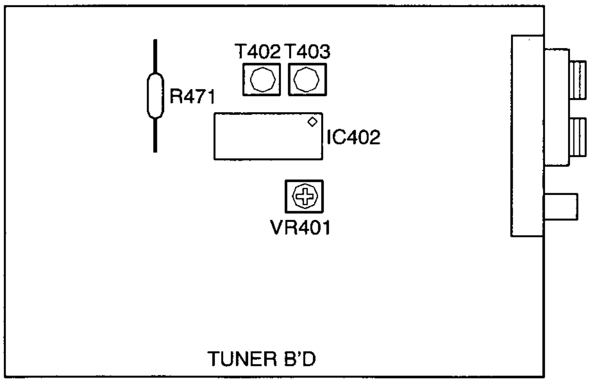
**● FM**


T402
T403
R471
IC402
VR402
TUNER B'D
75ohm
STEREO MODULATOR
FM SSG
Digital Voltmeter

### FM ALIGNMENT

| Step | Alignment Item | Tuning Frequency Setting | Input |  |  |  |  | Output |  | Adjustment |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  | Type | Frequency | Input Level | Modulation | Coupling | Type | Connect to | Points | Adjust to |
| 1 | Center Adjustment | 98.1MHz (98.0MHz) | FM SSG | 98.1MHz | 60dBμ | Mono 1kHz 100% | Antenna Terminal | Digital Voltmeter | R471 | T402 | ± 50mV |
| 2 | Distortion | 98.1MHz (98.0MHz) | FM SSG | 98.1MHz | 60dBμ | Mono 1kHz 100% | Antenna Terminal | Distortion Meter | Output Terminal (L) | T403 | Minimum Distortion |
| 3 | Repeat Steps 1 and 2 |  |  |  |  |  |  |  |  |  |  |
| 4 | Signal Level | 98.1MHz (98.0MHz) | FM SSG | 98.1MHz | 20dBμ | OFF | Antenna Terminal | Light "TUNED" on FL Display |  | VR402 | $20^{+14}_{-10}$ dB |

**● AM**


T402
T403
R471
IC402
VR401
TUNER B'D

### AM ALIGNMENT

| Step | Alignment Item | Frequency | Input | Output |  | Adjustment |  | Remarks |
|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Type | Connect to | Points | Adjust to |  |
| 1 | Signal Level | 999 (1000) kHz | AM SSG | — | — | VR401 | Light "TUNED" on FL Display | SSG OUTPUT 74dBμ (EMF) |

## Audio Section

### Idling Current

Required measurement equipment : DC Voltmeter

### Preparation

(1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room tempereture 15 °C ~ 30 °C (59 °F ~ 86 °F).

(2) Presetting
- POWER (Power sourse switch) → OFF
- SPEAKER (Speaker terminal) → No load (Do not connect speaker, dummy resistor, etc.)

### Adjustment

(1) Remove top cover and set VR101, VR102, VR103, VR104, VR105 on Amp. Unit at full counterclockwise ( ↺ ) position.

(2) Connect DC Voltmeter to test points (FRONT-Lch: TP104, FRONT-Rch: TP105, CENTER ch: TP103, SURROUND-Lch: TP101, SURROUND-Rch: TP102).

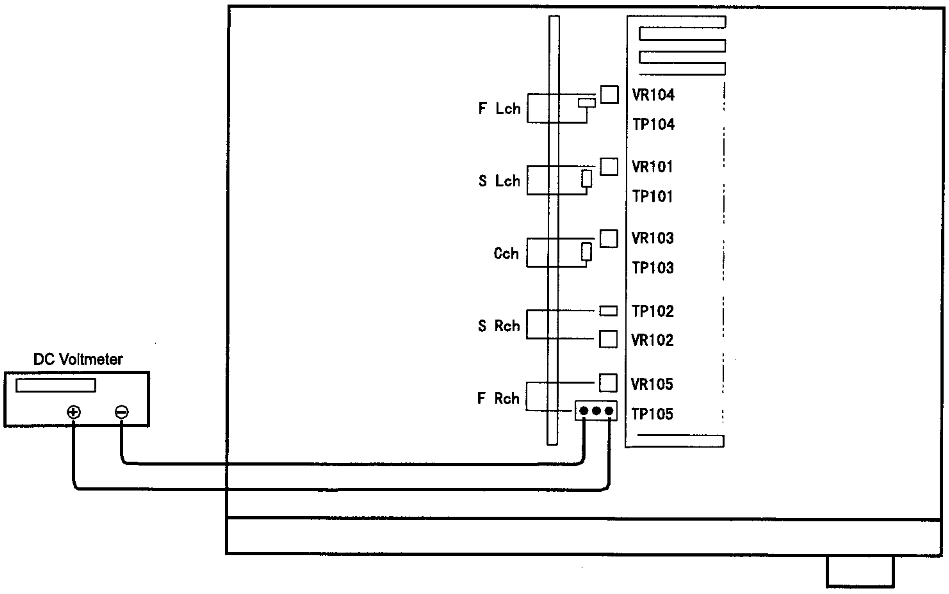
(3) Connect power cord to AC Line, and turn power switch "ON".

(4) Presetting.
MASTER VOLUME : "---" counterclockwise ( ↺ min.)
MODE : 5CH STEREO
FUNCTION : CD

(5) Within 2 minutes after the power on, turn VR101 clockwise ( ↻ ) to adjust the TEST POINT voltage to 1.5 mV ±0.5 mV DC.

(6) After 10 minutes from the preset above, turn VR101 to set the voltage to 2.5 mV ±0.5 mV DC.

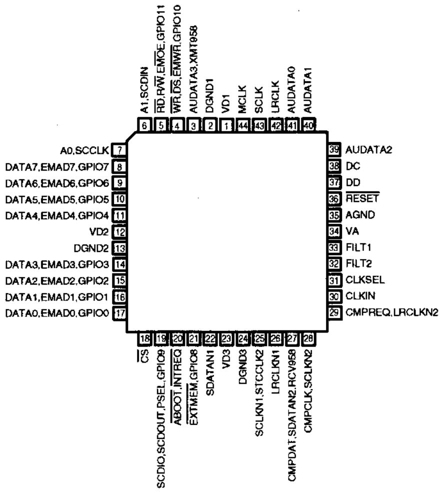
(7) Adjust the Variable Resistors of other channels in the same way.



# SEMICONDUCTORS

## ● IC's

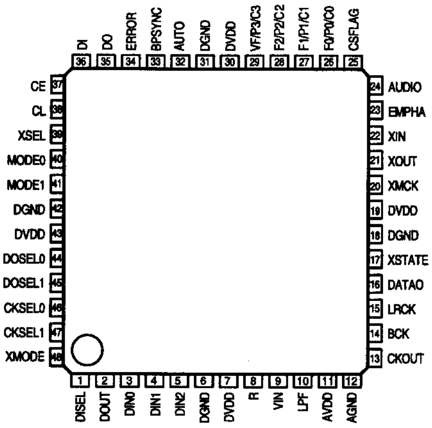
**CS49326-CL**
**(IC812)**


A1,SCDIN
$\overline{\text{RD}}$,R/$\overline{\text{W}}$,$\overline{\text{EMOE}}$,GPIO11
$\overline{\text{WR}}$,$\overline{\text{DS}}$,$\overline{\text{EMWR}}$,GPIO10
AUDATA3,XMT958
DGND1
VD1
MCLK
SCLK
LRCLK
AUDATA0
AUDATA1
6
5
4
3
2
1
44
43
42
41
40
A0,SCCLK 7
DATA7,EMAD7,GPIO7 8
DATA6,EMAD6,GPIO6 9
DATA5,EMAD5,GPIO5 10
DATA4,EMAD4,GPIO4 11
VD2 12
DGND2 13
DATA3,EMAD3,GPIO3 14
DATA2,EMAD2,GPIO2 15
DATA1,EMAD1,GPIO1 16
DATA0,EMAD0,GPIO0 17
39 AUDATA2
38 DC
37 DD
36 $\overline{\text{RESET}}$
35 AGND
34 VA
33 FILT1
32 FILT2
31 CLKSEL
30 CLKIN
29 CMPREQ,LRCLKN2
18
19
20
21
22
23
24
25
26
27
28
$\overline{\text{CS}}$
SCDIO,SCDOUT,PSEL,GPIO9
$\overline{\text{ABOOT}}$,$\overline{\text{INTREQ}}$
$\overline{\text{EXTMEM}}$,GPIO8
SDATAN1
VD3
DGND3
SCLKN1,STCCLK2
LRCLKN1
CMPDAT,SDATAN2,RCV958
CMPCLK,SCLKN2

## CS49326-CL Terminal Function

| Pin No. | Pin Name | Function |
|---|---|---|
| 1 | VD1 | Digital positive supply |
| 2 | DGND1 | Digital supply ground |
| 3 | AUDATA3, XMT958 | SPDIF transmitter output, Digital audio output 3 |
| 4 | $\overline{\text{WR}}$, $\overline{\text{DS}}$, $\overline{\text{EMWR}}$, GPIO10 | Host write strobe or host data strobe or external memory write enable or general purpose input & output number 10 |
| 5 | $\overline{\text{RD}}$, R/$\overline{\text{W}}$, $\overline{\text{EMOE}}$, GPIO11 | Host parallel output enable or host parallel R/$\overline{\text{W}}$ or external memory output enable or general purpose input & output number11 |
| 6 | A1, SCDIN | Host address bit one or SPI serial control data input |
| 7 | A0, SCCLK | Host parallel address bit zero or serial control port clock |
| 8 | DATA7, EMAD7, GPIO7 | |
| 9 | DATA6, EMAD6, GPIO6 | |
| 10 | DATA5, EMAD5, GPIO5 | |
| 11 | DATA4, EMAD4, GPIO4 | |
| 12 | VD2 | Digital positive supply |
| 13 | DGND2 | Digital supply ground |
| 14 | DATA3, EMAD3, GPIO3 | |
| 15 | DATA2, EMAD2, GPIO2 | |
| 16 | DATA1, EMAD1, GPIO1 | |
| 17 | DATA0, EMAD0, GPIO0 | |
| 18 | $\overline{\text{CS}}$ | Host parallel chip select, host serial SPI chip select |
| 19 | SCDIO, SCDOUT, PSEL, GPIO9 | Serial control port data input and output, parallel port type select |
| 20 | $\overline{\text{INTREQ}}$, $\overline{\text{ABOOT}}$ | Control port interrupt request, automatic boot enable |
| 21 | $\overline{\text{EXTMEM}}$, GPIO8 | External memory chip select or general purpose input & output number 8 |
| 22 | SDATAN1 | PCM audio data input number one |
| 23 | VD3 | Digital positive supply |
| 24 | DGND3 | Digital supply ground |
| 25 | SCLKN1, STCCLK2 | PCM audio input bit clock |
| 26 | LRCLKN1 | PCM audio input sample rate clock |
| 27 | CMPDAT, SDATAN2, RCV958 | PCM audio data input number two |
| 28 | CMPCLK, SCLKN2 | PCM audio input bit clock |
| 29 | CMPREQ, LRCLKN2 | PCM audio input sample rate clock |
| 30 | CLKIN | Master clock input |
| 31 | CLKSEL | DSP clock select |
| 32 | FILT2 | Phase locked loop filter |
| 33 | FILT1 | Phase locked loop filter |
| 34 | VA | Analog positive supply |
| 35 | AGND | Analog supply ground |
| 36 | $\overline{\text{RESET}}$ | Master reset input |
| 37 | DD | Reserved |
| 38 | DC | Reserved |
| 39 | AUDATA2 | Digital audio output 2 |
| 40 | AUDATA1 | Digital audio output 1 |
| 41 | AUDATA0 | Digital audio output 0 |
| 42 | LRCLK | Audio output sample rate clock |
| 43 | SCLK | Audio output bit clock |
| 44 | MCLK | Audio master clock |

## LC89055W (IC810)

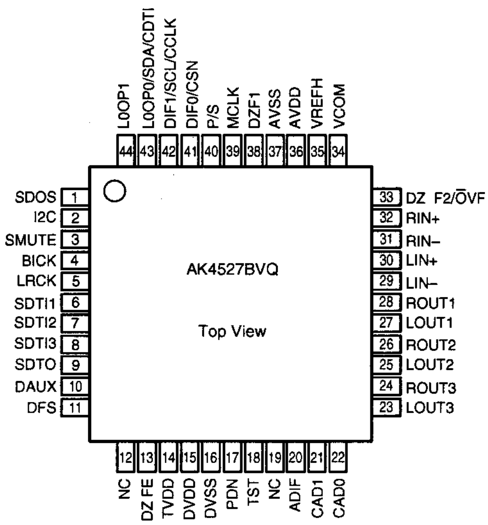

DI 36
DO 35
ERROR 34
BPSYNC 33
AUTO 32
DGND 31
DVDD 30
VF/P3/C3 29
F2/P2/C2 28
F1/P1/C1 27
F0/P0/C0 26
CSFLAG 25
CE 37
CL 38
XSEL 39
MODE0 40
MODE1 41
DGND 42
DVDD 43
DOSEL0 44
DOSEL1 45
CKSEL0 46
CKSEL1 47
XMODE 48
24 AUDIO
23 EMPHA
22 XIN
21 XOUT
20 XMCK
19 DVDD
18 DGND
17 XSTATE
16 DATAO
15 LRCK
14 BCK
13 CKOUT
1 DISEL
2 DOUT
3 DIN0
4 DIN1
5 DIN2
6 DGND
7 DVDD
8 R
9 VIN
10 LPF
11 AVDD
12 AGND

## LC89055W Terminal Function

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | DISEL | I | Data input terminal (select input pin of DIN0, DIN1) |
| 2 | DOUT | O | Input bi-phase data through output terminal |
| 3 | DIN0 | I | Amp built-in coaxial/optical input correspond data input terminal |
| 4 | DIN1 | I | Amp built-in coaxial/optical input correspond data input terminal |
| 5 | DIN2 | I | Optical input correspond data input terminal |
| 6 | DGND |  | Digital GND |
| 7 | DVDD |  | Digital power supply |
| 8 | R | I | VCO gain control input terminal |
| 9 | VIN | I | VCO free-run frequency setting input terminal |
| 10 | LPF | O | PLL loop filter setting terminal |
| 11 | AVDD |  | Analog power supply |
| 12 | AGND |  | Analog GND |
| 13 | CKOUT | O | Clock output terminal (256fs, 384fs, 512fs, X'tal osc., VCO free-run osc.) |
| 14 | BCK | O | 64fs clock output terminal |
| 15 | LRCK | O | fs clock output terminal (L: Rch, H: Lch, I$^2$S: Reverse) |
| 16 | DATAO | O | Data output terminal |
| 17 | XSTATE | O | Input data detecting result output terminal |
| 18 | DGND |  | Digital GND |
| 19 | DVDD |  | Digital power supply |
| 20 | XMCK | O | X'tal osc. clock output terminal (24.576MHz or 12.288MHz) |
| 21 | XOUT | O | X'tal osc. connection output terminal |
| 22 | XIN | I | X'tal osc. connection input terminal, external signal input possible (24.576MHz or 12.288MHz) |
| 23 | EMPHA | O | Emphasis information output terminal of channel status |
| 24 | AUDIO | O | Bit1 output terminal of channel status |
| 25 | CSFLAG | O | Top 40bit revise flag output terminal of channel status |
| 26 | F0/P0/C0 | O | Input fs cal. sig. out/data type out/input word inf. output terminal |
| 27 | F1/P1/C1 | O | Input fs cal. sig. out/data type out/input word inf. output terminal |
| 28 | F2/P2/C2 | O | Input fs cal. sig. out/data type out/input word inf. output terminal |
| 29 | VF/P3/C3 | O | Validity flag out/data type out/input word inf. output terminal |
| 30 | DVDD |  | Digital power supply |
| 31 | DGND |  | Digital GND |
| 32 | AUTO | O | Non PCM burst data transfer detect sig. output terminal |
| 33 | BPSYNC | O | Non PCM burst data preamble Pa, Pb, Pc, Pd sync sig. output terminal |
| 34 | ERROR | O | PLL lock error, data error flag output terminal |
| 35 | DO | O | CPU/IFD read data output terminal |
| 36 | DI | I | CPU I/F write data input terminal |
| 37 | CE | I | CPU I/F chip enable input terminal |
| 38 | CL | I | CPU I/F chip enable input terminal |
| 39 | XSEL | I | Frequency select input pin of XIN X'tal osc. (24.576MHz or 12.288MHz) |
| 40 | MODE0 | I | Mode setting input terminal |
| 41 | MODE1 | I | Mode setting input terminal |
| 42 | DGND |  | Digital GND |
| 43 | DVDD |  | Digital power supply |
| 44 | DOSEL0 | I | Data output format select input terminal |
| 45 | DOSEL1 | I | Data output format select input terminal |
| 46 | CKSEL0 | I | Output clock select input terminal |
| 47 | CKSEL1 | I | Output clock select input terminal |
| 48 | XMODE | I | Reset input terminal |

- For latch-up countermeasure, set digital (DVDD) and analog (AVDD) power on/off in the same timing.

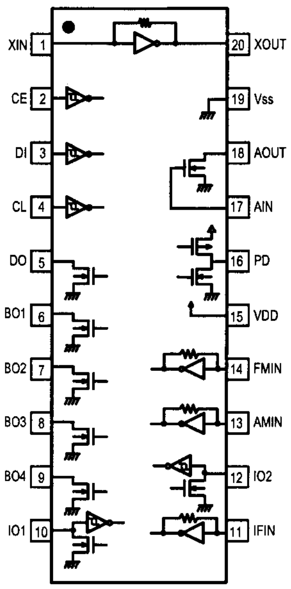
## AK4527BVQ (IC813)


AK4527BVQ
Top View
1 SDOS
2 I2C
3 SMUTE
4 BICK
5 LRCK
6 SDTI1
7 SDTI2
8 SDTI3
9 SDTO
10 DAUX
11 DFS
12 NC
13 DZ FE
14 TVDD
15 DVDD
16 DVSS
17 PDN
18 TST
19 NC
20 ADIF
21 CAD1
22 CAD0
23 LOUT3
24 ROUT3
25 LOUT2
26 ROUT2
27 LOUT1
28 ROUT1
29 LIN–
30 LIN+
31 RIN–
32 RIN+
33 DZ F2/OVF
34 VCOM
35 VREFH
36 AVDD
37 AVSS
38 DZF1
39 MCLK
40 P/S
41 DIF0/CSN
42 DIF1/SCL/CCLK
43 LOOP0/SDA/CDTI
44 LOOP1

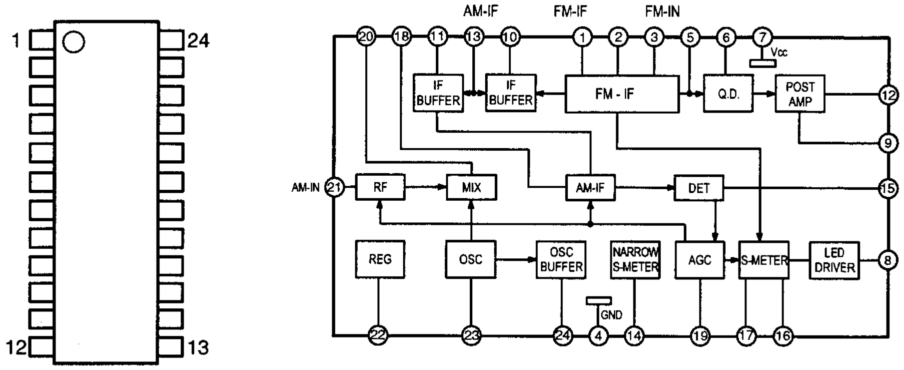
## AK4527BVQ Terminal Function

| Pin No. | Pin Name | I/O | Function |
|---|---|---|---|
| 1 | SDOS | I | SDTO source select pin, L: Internal ADC output, H: DAUX input |
| 2 | I2C | I | Serial control mode select pin, L: 3-core serial, H: $I^2C$ bus |
| 3 | SMUTE | I | Soft mute pin, H: Soft mute start, L: Release |
| 4 | BICK | I | Audio serial data clock pin |
| 5 | LRCK | I | Input channel clock pin |
| 6 | SDTI1 | I | DAC1 audio serial data input pin |
| 7 | SDTI2 | I | DAC2 audio serial data input pin |
| 8 | SDTI3 | I | DAC3 audio serial data input pin |
| 9 | SDTO | O | Audio serial data output pin |
| 10 | DAUX | I | Auxiliary audio serial data input pin |
| 11 | DFS | I | Double speed sampling mode pin, L: Normal, H: Double |
| 12 | NC | — | No Connect, No internal bonding |
| 13 | DZFE | I | Zero input detect enable pin |
| 14 | TVDD | — | Power pin for output buffer, 2.7V~5.5V |
| 15 | DVDD | — | Digital power pin, 4.5V~5.5V |
| 16 | DVss | — | Digital GND pin, 0V |
| 17 | PDN | I | Power down & reset pin, L: Powered-down and register initialized, Reset with PDN when switching P/S or CAD0-1 |
| 18 | TST | I | Test pin, connected to DVSS |
| 19 | NC | — | No Connect, No internal bonding |
| 20 | ADIF | I | Analog Input Format Select pin |
| 21 | CAD1 | I | Chip address-1 pin |
| 22 | CAD0 | I | Chip address-0 pin |
| 23 | LOUT3 | O | DAC3L channel analog out pin |
| 24 | ROUT3 | O | DAC3R channel analog out pin |
| 25 | LOUT2 | O | DAC2L channel analog out pin |
| 26 | ROUT2 | O | DAC2R channel analog out pin |
| 27 | LOUT1 | O | DAC1L channel analog out pin |
| 28 | ROUT1 | O | DAC1R channel analog out pin |
| 29 | LIN- | I | L-ch analog inverted input pin |
| 30 | LIN+ | I | L-ch analog non-inverted input pin |
| 31 | RIN- | I | R-ch analog inverted input pin |
| 32 | RIN+ | I | R-ch analog non-inverted input pin |
| 33 | DZF2/OVF | O | 0 input detect 2 pin/Analog input overflow detect pin |
| 34 | VCOM | O | Common V-out pin, AVDD/2, connect large capacitor to avoid noise |
| 35 | VREFH | I | Ref. V input pin, AVDD |
| 36 | AVDD | — | Analog GND pin, 4.5V~5.5V |
| 37 | AVss | — | Analog GND pin, 0V |
| 38 | DZF1 | O | 0 input detect pin, H: Input data of G1 is 8192 times "0" in a raw or RSTN bit "0" |
| 39 | MCLK | I | Master clock input pin |
| 40 | P/S | I | Parallel/Serial select pin, L: Serial control |
| 41 | DIF0 | I | Audio data I/F format 0 pin (parallel control) |
|  | CSN | I | Chip select pin (3-wire serial control), connect to DVDD when $I^2C$ bus control |
| 42 | DIFI | I | Audio data I/F format 1 pin (parallel control) |
|  | SCL/CCLK | I | Control data clock pin (serial control), $I^2C$="L": CCLK (3-wire serial), $I^2C$="H": SCL ($I^2C$ bus) |
| 43 | LOOP0 | I | Loop back mode 0 pin (parallel control), effects digital loop back ADC to all DAC |
|  | SDA/CDTI | I/O | Control data input pin (serial control), $I^2C$="L": CCTI (3-wire serial), $I^2C$ ="H" SDA ($I^2C$ bus) |
| 44 | LOOP1 | I | Loop back mode 1 pin, from SDT1 to all DAC |

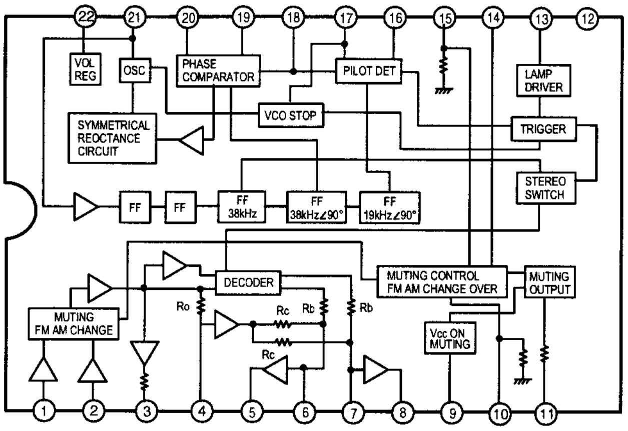
### LC72131 (IC401)


XIN 1
CE 2
DI 3
CL 4
DO 5
BO1 6
BO2 7
BO3 8
BO4 9
IO1 10
20 XOUT
19 Vss
18 AOUT
17 AIN
16 PD
15 VDD
14 FMIN
13 AMIN
12 IO2
11 IFIN

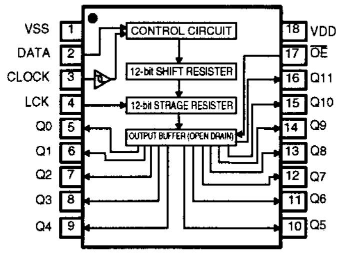
### LA1266 (IC402)


1
24
12
13
AM-IF
FM-IF
FM-IN
20
18
11
13
10
1
2
3
5
6
7
Vcc
IF BUFFER
IF BUFFER
FM - IF
Q.D.
POST AMP
12
9
AM-IN 21
RF
MIX
AM-IF
DET
15
REG
OSC
OSC BUFFER
NARROW S-METER
AGC
S-METER
LED DRIVER
8
GND
22
23
24
4
14
19
17
16

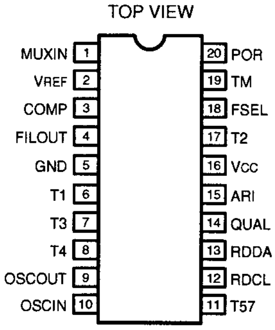
### LA3401 (IC403)


22
21
20
19
18
17
16
15
14
13
12
VOL REG
OSC
PHASE COMPARATOR
PILOT DET
LAMP DRIVER
VCO STOP
SYMMETRICAL REOCTANCE CIRCUIT
TRIGGER
STEREO SWITCH
FF
FF
FF 38kHz
FF 38kHz∠90°
FF 19kHz∠90°
DECODER
MUTING CONTROL FM AM CHANGE OVER
MUTING OUTPUT
MUTING FM AM CHANGE
Ro
Rc
Rb
Rb
Rc
Vcc ON MUTING
1
2
3
4
5
6
7
8
9
10
11

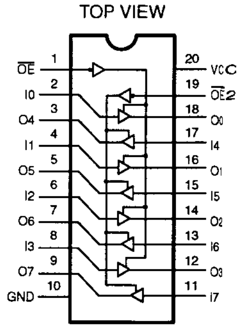
### BU2090F (IC302)


VSS 1
DATA 2
CLOCK 3
LCK 4
Q0 5
Q1 6
Q2 7
Q3 8
Q4 9
18 VDD
17 $\overline{\text{OE}}$
16 Q11
15 Q10
14 Q9
13 Q8
12 Q7
11 Q6
10 Q5
CONTROL CIRCUIT
12-bit SHIFT RESISTER
12-bit STRAGE RESISTER
OUTPUT BUFFER (OPEN DRAIN)

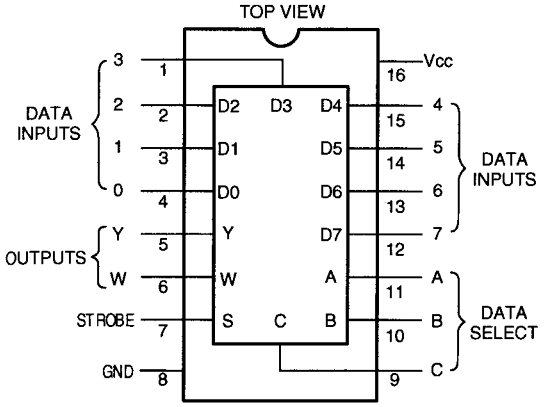
### TDA7330BD (IC202)


TOP VIEW
MUXIN 1
VREF 2
COMP 3
FILOUT 4
GND 5
T1 6
T3 7
T4 8
OSCOUT 9
OSCIN 10
20 POR
19 TM
18 FSEL
17 T2
16 Vcc
15 ARI
14 QUAL
13 RDDA
12 RDCL
11 T57

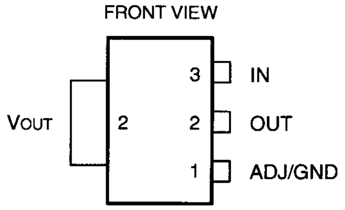
### MM74LCX244 (IC818,819)


TOP VIEW
$\overline{\text{OE}}$ 1
I0 2
O4 3
I1 4
O5 5
I2 6
O6 7
I3 8
O7 9
GND 10
20 VCC
19 $\overline{\text{OE}}$2
18 O0
17 I4
16 O1
15 I5
14 O2
13 I6
12 O3
11 I7

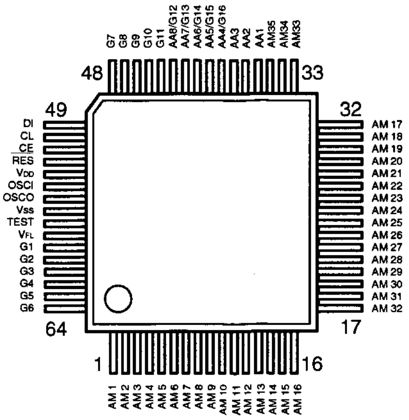
### MM74HC151 (IC832)


TOP VIEW
DATA INPUTS
3
2
1
0
OUTPUTS
Y
W
STROBE
GND
1
2
3
4
5
6
7
8
D2
D3
D4
D1
D5
D0
D6
Y
D7
W
A
S
C
B
16
15
14
13
12
11
10
9
Vcc
4
5
6
7
DATA INPUTS
A
B
C
DATA SELECT

### RC1117S25T (IC820)
### RC1117S33ST (IC811)


FRONT VIEW
VOUT
2
3 IN
2 OUT
1 ADJ/GND

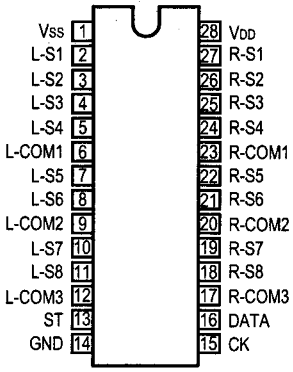
## LC75721E (IC301)


G7
G8
G9
G10
G11
AA8/G12
AA7/G13
AA6/G14
AA5/G15
AA4/G16
AA3
AA2
AA1
AM35
AM34
AM33
48
33
49
32
DI
CL
CE
RES
VDD
OSCI
OSCO
Vss
TEST
VFL
G1
G2
G3
G4
G5
G6
AM 17
AM 18
AM 19
AM 20
AM 21
AM 22
AM 23
AM 24
AM 25
AM 26
AM 27
AM 28
AM 29
AM 30
AM 31
AM 32
64
17
1
16
AM 1
AM 2
AM 3
AM 4
AM 5
AM 6
AM 7
AM 8
AM 9
AM 10
AM 11
AM 12
AM 13
AM 14
AM 15
AM 16

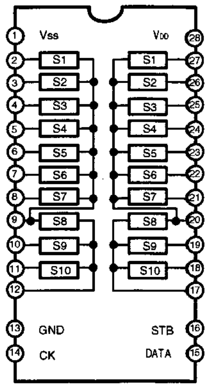
## ● LC75721E Terminal Function

| Symbol | Function |
|---|---|
| $V_{DD}$ | Power terminal +5V |
| $V_{SS}$ | Power terminal GND |
| $V_{FL}$ | Power terminal FL drive |
| DI<br>CL<br>CE | Serial data transfer terminal<br>DI: Data<br>CL: Clock<br>CE: Chip enable |
| OSCI<br>OSCO | External CR connecting terminal |
| $\overline{\text{RES}}$ | System reset terminal |
| AM1~AM35<br>AA1~AA3 | Anode output terminal |
| AA4/G16<br>AA5/G15<br>AA6/G14<br>AA7/G13<br>AA8/G12 | Anode/Grid output terminal |
| G1~G11 | Grid output terminal |
| TEST | LSI test terminal |

## KIC9164AN (IC221)


Vss 1
L-S1 2
L-S2 3
L-S3 4
L-S4 5
L-COM1 6
L-S5 7
L-S6 8
L-COM2 9
L-S7 10
L-S8 11
L-COM3 12
ST 13
GND 14
28 VDD
27 R-S1
26 R-S2
25 R-S3
24 R-S4
23 R-COM1
22 R-S5
21 R-S6
20 R-COM2
19 R-S7
18 R-S8
17 R-COM3
16 DATA
15 CK

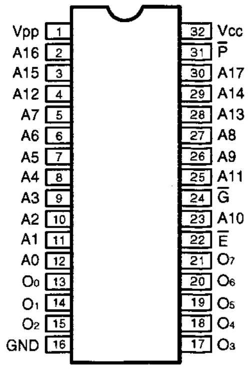
## TC9273N-007(IC701)

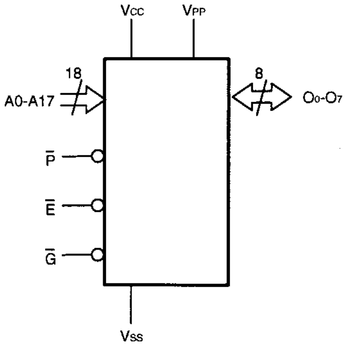

1 Vss
28 VDD
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
13 GND
14 CK
16 STB
15 DATA
2
3
4
5
6
7
8
9
10
11
12
27
26
25
24
23
22
21
20
19
18
17

## ● TC9273N Terminal Function

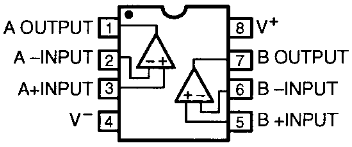
| Pin No. | Symbol | Name | Function | |
|---|---|---|---|---|
| 1 | Vss | + Power Terminal | Dual Power Use:$V_{DD}$=8.0~17V Single Power Use:$V_{DD}$=8.0~18V | |
| 13 | GND | Digital Ground | GND=0V GND=0V | |
| 28 | $V_{DD}$ | + Power Terminal | Vss=–8.0~–17V | |
| 2~12<br>12~27 | S1~S10 | I/O Terminal | Input terminal of analog switch. | |
| 14 | CK | Clock Input | Clock input for data transfer. | Low level Border Input Terminal |
| 15 | DATA | Data Input | Serial input for switch setting. | |
| 16 | STB | Strobe Input | Strobe InputStrobe input for data writing. | |

## W27W201 (IC807)

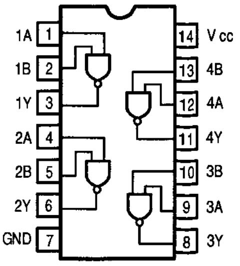

Vpp 1
A16 2
A15 3
A12 4
A7 5
A6 6
A5 7
A4 8
A3 9
A2 10
A1 11
A0 12
O0 13
O1 14
O2 15
GND 16
32 Vcc
31 P̄
30 A17
29 A14
28 A13
27 A8
26 A9
25 A11
24 Ḡ
23 A10
22 Ē
21 O7
20 O6
19 O5
18 O4
17 O3


Vcc
VPP
18
A0-A17
8
O0-O7
P̄
Ē
Ḡ
Vss

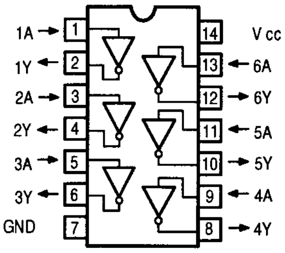
## NJM2068DD
## (IC241,251,261,271,281,291,702,703)
## BA4510F (IC805~806)
## NJM2068MD (IC814~816)


A OUTPUT 1
A –INPUT 2
A+INPUT 3
V⁻ 4
8 V⁺
7 B OUTPUT
6 B –INPUT
5 B +INPUT

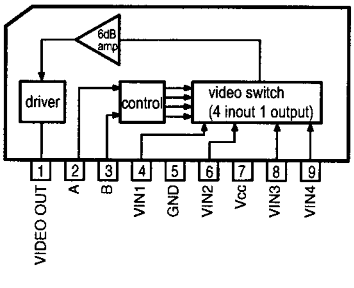
## SN74LV00APW (IC822)


1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7
14 Vcc
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

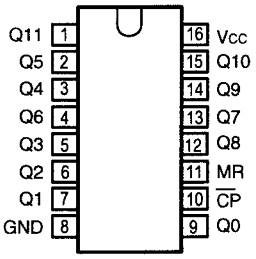
## 74HCU04 (IC803)


1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

## LA7952 (IC601,651,652)


6dB amp
driver
control
video switch (4 inout 1 output)
1
2
3
4
5
6
7
8
9
VIDEO OUT
A
B
VIN1
GND
VIN2
Vcc
VIN3
VIN4

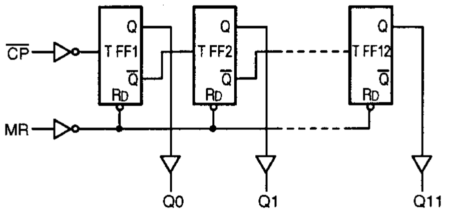
## SN74LV4040 (IC831)


Q11 1
Q5 2
Q4 3
Q6 4
Q3 5
Q2 6
Q1 7
GND 8
16 Vcc
15 Q10
14 Q9
13 Q7
12 Q8
11 MR
10 CP
9 Q0

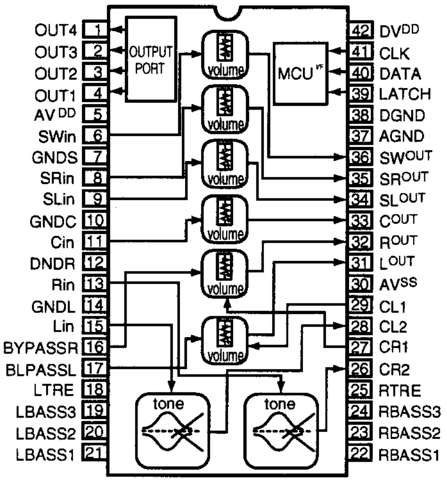
### Terminal Function

| INPUTS | | OUTPUTS |
|---|---|---|
| $\overline{CP}$ | MR | Qn |
| ↑ | L | no change |
| ↓ | L | count |
| X | H | L |

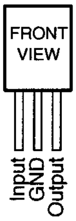
H=HIGH voltage level
L=LOW voltage level
X=don't care
↑=LOW-to-HIGH clock transition
↓=HIGH-to-LOW clock transition


CP
MR
Q
T FF1
Q
RD
T FF2
T FF12
Q0
Q1
Q11

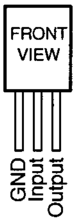
## M62446FP (IC231)


OUT4 1
OUT3 2
OUT2 3
OUT1 4
AVDD 5
SWin 6
GNDS 7
SRin 8
SLin 9
GNDC 10
Cin 11
DNDR 12
Rin 13
GNDL 14
Lin 15
BYPASSR 16
BLPASSL 17
LTRE 18
LBASS3 19
LBASS2 20
LBASS1 21
42 DVDD
41 CLK
40 DATA
39 LATCH
38 DGND
37 AGND
36 SWOUT
35 SROUT
34 SLOUT
33 COUT
32 ROUT
31 LOUT
30 AVSS
29 CL1
28 CL2
27 CR1
26 CR2
25 RTRE
24 RBASS3
23 RBASS2
22 RBASS1
OUTPUT PORT
MCU
volume
tone

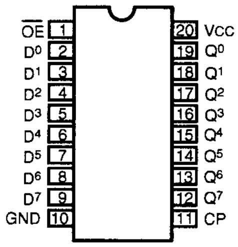
## KIA7805AP (IC104)
## KIA7815AP (IC101)
## NJM7805FA (IC103,829)
## NJM7812FA (IC602)


FRONT VIEW
Input
GND
Output

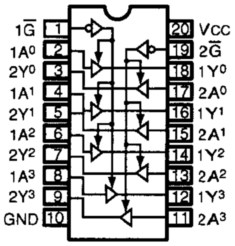
## NJM7915FA (IC102)


FRONT VIEW
GND
Input
Output

## MM74LCX574 (IC808,809)

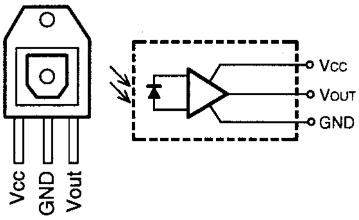

OE 1
D0 2
D1 3
D2 4
D3 5
D4 6
D5 7
D6 8
D7 9
GND 10
20 Vcc
19 Q0
18 Q1
17 Q2
16 Q3
15 Q4
14 Q5
13 Q6
12 Q7
11 CP

## MM74HCT244 (IC828,830)

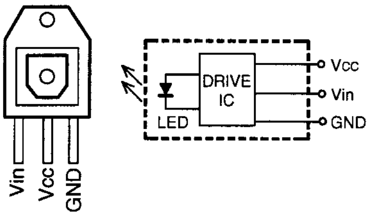

1G 1
1A0 2
2Y0 3
1A1 4
2Y1 5
1A2 6
2Y2 7
1A3 8
2Y3 9
GND 10
20 Vcc
19 2G
18 1Y0
17 2A0
16 1Y1
15 2A1
14 1Y2
13 2A2
12 1Y3
11 2A3

## ● OPTICAL

### INPUT
### GP1FA502RZ (IC802)

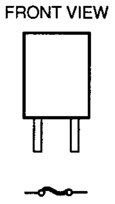

Vcc
VOUT
GND
Vcc
GND
Vout

### OUTPUT
### GP1FA502TZ(IC817)


DRIVE IC
LED
Vcc
Vin
GND
Vin
Vcc
GND

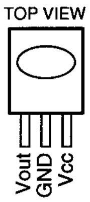
## ● IC PROTECTOR

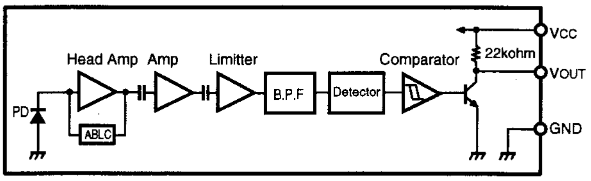
### ICP-N15 (IC105)



## ● IR SENSOR

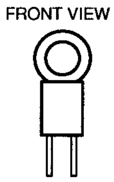
### NJL64H380A(RMC301)


TOP VIEW
Vout
GND
Vcc


Head Amp
Amp
Limitter
Comparator
22kohm
PD
ABLC
B.P.F
Detector
VCC
VOUT
GND

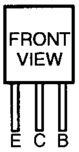
## ● POSISTOR

### P43T7D330BW16

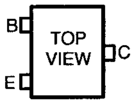


## ● TRANSISTORS

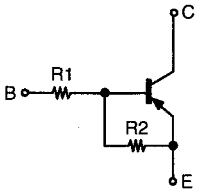
**DTA114ES**
**DTC114TS**
**DTC114YS**
**DTC144ES**


FRONT VIEW
E C B

**DTA114EK**
**DTA114YK**
**DTA144EK**
**DTC114EK**
**DTC114YK**
**DTC144EK**

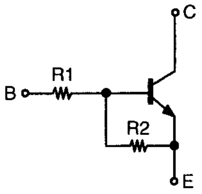

B
TOP VIEW
C
E

**DTA Series**



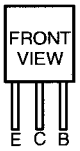
| | R1 | R2 |
|---|---|---|
| DTA114EK | 10kohm / Ω | 10kohm / Ω |
| DTA114ES | 10kohm / Ω | 10kohm / Ω |
| DTA114YK | 10kohm / Ω | 47kohm / Ω |
| DTA144EK | 47kohm / Ω | 47kohm / Ω |

**DTC Series**

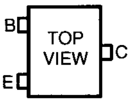


| | R1 | R2 |
|---|---|---|
| DTC114EK | 10kohm / Ω | 10kohm / Ω |
| DTC114TS | 10kohm / Ω | — |
| DTC114YK | 10kohm / Ω | 47kohm / Ω |
| DTC114YS | 10kohm / Ω | 47kohm / Ω |
| DTC144EK | 47kohm / Ω | 47kohm / Ω |
| DTC144ES | 47kohm / Ω | 47kohm / Ω |

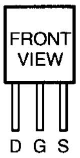
**2SC1740S**
**2SC3199Y**
**KSA916Y**
**KSA992F**
**KSC1845F**
**KTA1266Y**
**KTA1268BL**
**KTC2874B**
**KTC3198Y**
**KTC3200BL**


FRONT VIEW
E C B

**2SC2412K**
**KTC3880S**

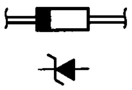

B
TOP VIEW
C
E

**2SK117**

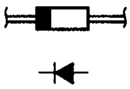

FRONT VIEW
D G S

## ● DIODES (LED included)

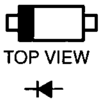
**MTZJ3.3B**
**MTZJ5.1B**
**MTZJ5.6B**
**MTZJ6.8B**
**MTZJ7.5A**
**MTZJ7.5B**
**MTZJ11B**
**MTZJ18B**
**MTZJ20B**



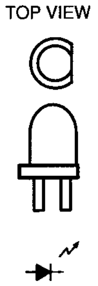
**1N4007**
**1SS133**



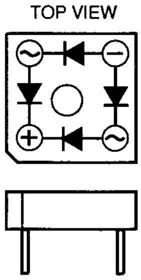
**KDS160**



**HL-50RDRF4T**

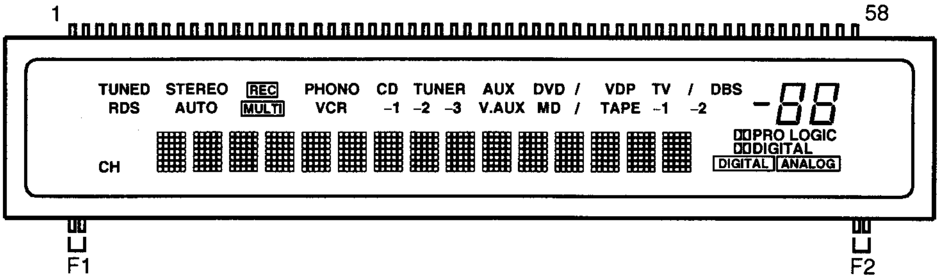


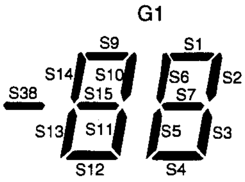
**KBPC604**

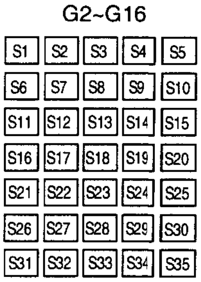


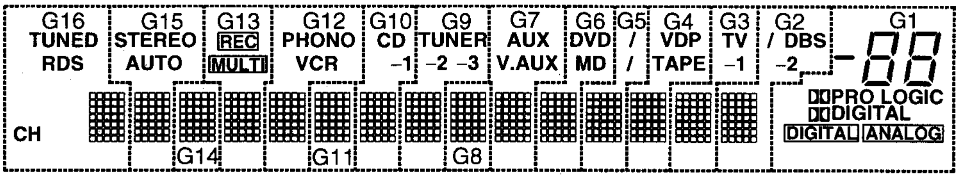
## ● FL DISPLAY

### 16-st-42GNK (FL301)


1
58
TUNED
RDS
STEREO
AUTO
REC
MULTI
PHONO
VCR
CD
-1
TUNER
-2
-3
AUX
V.AUX
DVD /
MD /
VDP
TAPE
TV
-1
/
-2
DBS
DDPRO LOGIC
DDDIGITAL
DIGITAL
ANALOG
CH
F1
F2


G1
S9
S1
S14
S10
S6
S2
S38
S15
S7
S13
S11
S5
S3
S12
S4


G2~G16
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29
S30
S31
S32
S33
S34
S35


G16
TUNED
RDS
G15
STEREO
AUTO
G13
REC
MULTI
G12
PHONO
VCR
G10
CD
-1
G9
TUNER
-2 -3
G7
AUX
V.AUX
G6
DVD
MD
G5
/
/
G4
VDP
TAPE
G3
TV
-1
G2
/ DBS
-2
G1
DDPRO LOGIC
DDDIGITAL
DIGITAL
ANALOG
CH
G14
G11
G8

### Pin Assignment

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PIN NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| CONNECTION | F1 | F1 | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | S11 | S12 | S13 | S14 | S15 | S16 | S17 | S18 |
| PIN NO. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| CONNECTION | S19 | S20 | S21 | S22 | S23 | S24 | S25 | S26 | S27 | S28 | S29 | S30 | S31 | S32 | S33 | S34 | S35 | S36 | S37 | S38 |
| PIN NO. | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | | |
| CONNECTION | G16 | G15 | G14 | G13 | G12 | G11 | G10 | G9 | G8 | G7 | G6 | G5 | G4 | G3 | G2 | G1 | F2 | F2 | | |

F1, F2 : Filament
G1~G16: Grid
S1~S38 : Anode

### Anode & Grid Assignment

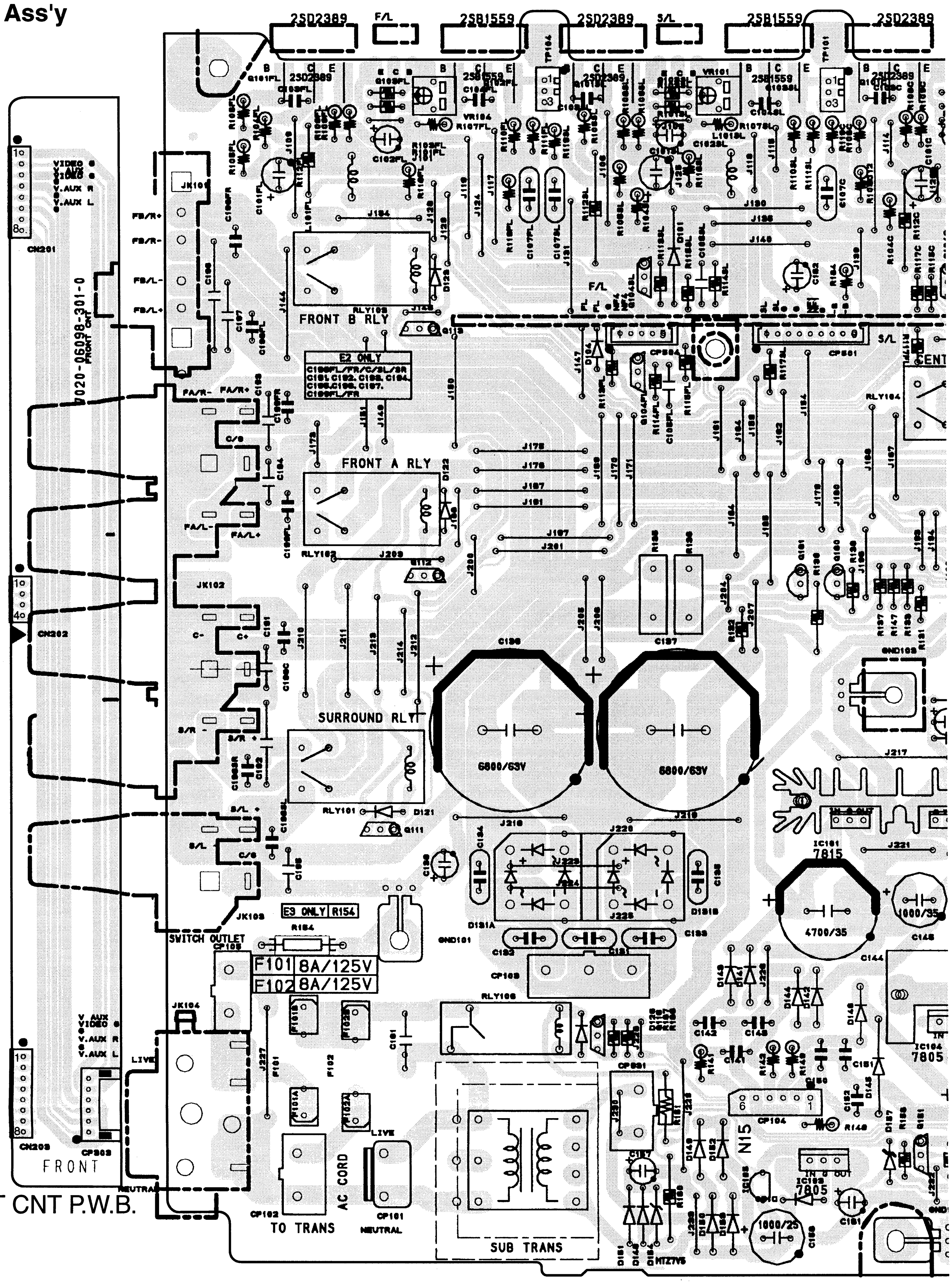
| | G1 | G2~G16 | | G1 | G2~G16 | | G1 | G2~G16 | | G1 | G2~G16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S1 | S1 | S1 | S10 | S10 | S10 | S19 | — | S19 | S28 | — | S28 |
| S2 | S2 | S2 | S11 | S11 | S11 | S20 | — | S20 | S29 | — | S29 |
| S3 | S3 | S3 | S12 | S12 | S12 | S21 | — | S21 | S30 | — | S30 |
| S4 | S4 | S4 | S13 | S13 | S13 | S22 | — | S22 | S31 | — | S31 |
| S5 | S5 | S5 | S14 | S14 | S14 | S23 | — | S23 | S32 | — | S32 |
| S6 | S6 | S6 | S15 | S15 | S15 | S24 | — | S24 | S33 | — | S33 |
| S7 | S7 | S7 | S16 | — | S16 | S25 | — | S25 | S34 | — | S34 |
| S8 | — | S8 | S17 | DDDIGITAL | S17 | S26 | — | S26 | S35 | — | S35 |
| S9 | S9 | S9 | S18 | DDPRO LOGIC | S18 | S27 | — | S27 | | | |

| | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 | G13 | G14 | G15 | G16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S36 | DIGITAL | / | TV | VDP | /(DVD) | DVD | AUX | — | TUNER | CD | — | PHONO | REC | — | STEREO | TUNED |
| S37 | ANALOG | -2 | -1 | TAPE | /(MD) | MD | V.AUX | — | -2 | -1 | — | VCR | MULTI | — | AUTO | RDS |
| S38 | S38 | DBS | — | — | — | — | — | — | -3 | — | — | — | — | — | — | CH |

## PRINTED WIRING BOARDS

1 2 3 4 5

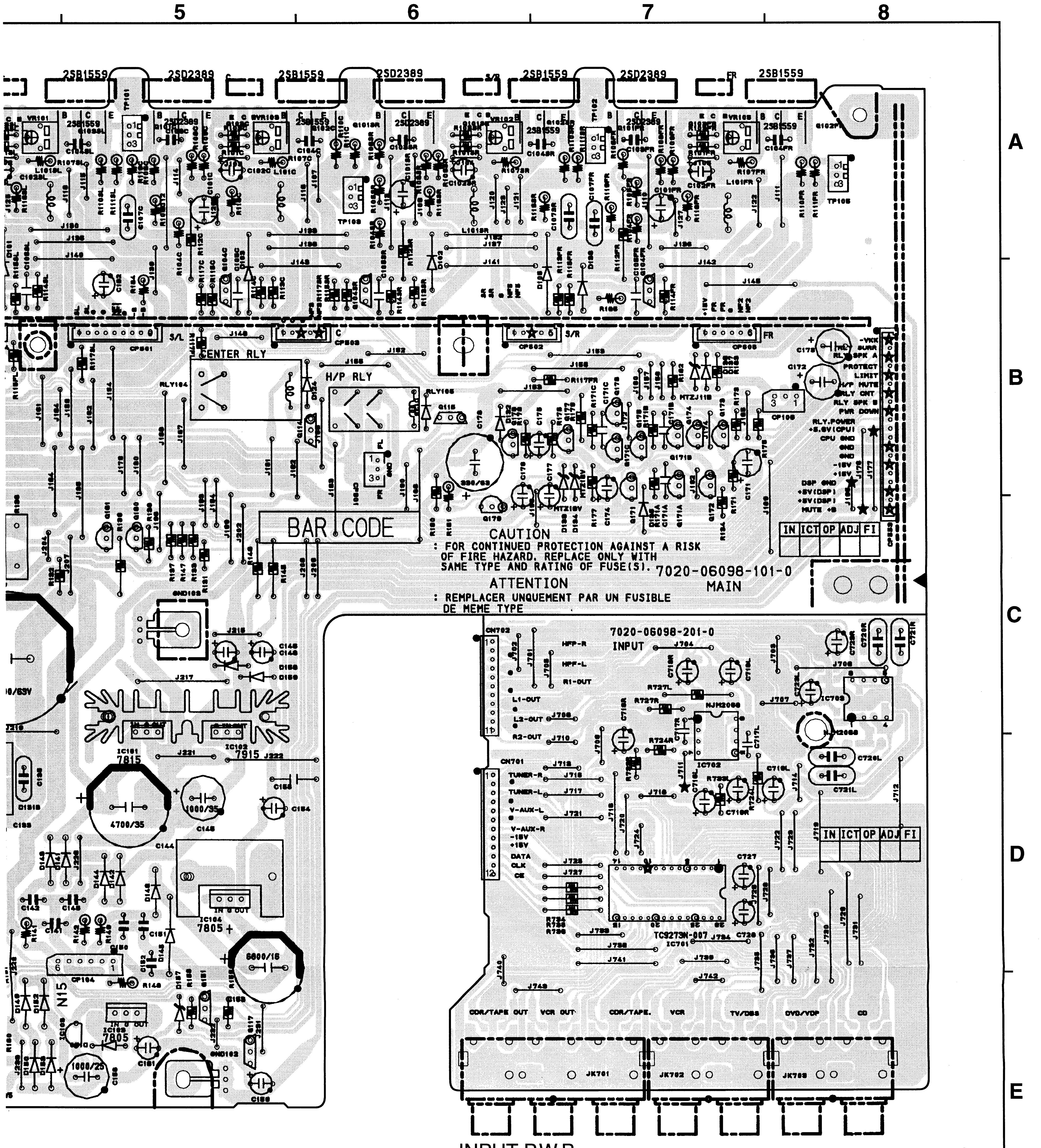
**MAIN P.W.B. UNIT Ass'y**



2SD2389
F/L
2SB1559
2SD2389
S/L
2SB1559
2SD2389
CN201
JK101
FB/R+
FB/R-
FB/L-
FB/L+
7020-06098-301-0
FRONT B RLY
E2 ONLY
C199FL/FR/C/SL/SR
C191,C192,C193,C194,
C195,C196,C197,
C198FL/FR
FRONT A RLY
FA/R-
FA/R+
C/S
FA/L-
FA/L+
RLY102
CN202
JK102
C-
C+
SURROUND RLY
S/R-
S/R+
RLY101
D121
Q111
S/L+
S/L
C/S
JK103
E3 ONLY
R154
6800/63V
6800/63V
C196
C197
RLY104
IC101
7815
4700/35
1000/35
GND101
SWITCH OUTLET
CP103
F101
8A/125V
F102
8A/125V
JK104
LIVE
NEUTRAL
CN203
CP202
FRONT
CP102
TO TRANS
AC CORD
CP101
NEUTRAL
LIVE
RLY103
SUB TRANS
IC104
7805
IC102
7805
1000/25
CP104
MTZ7V5
N15

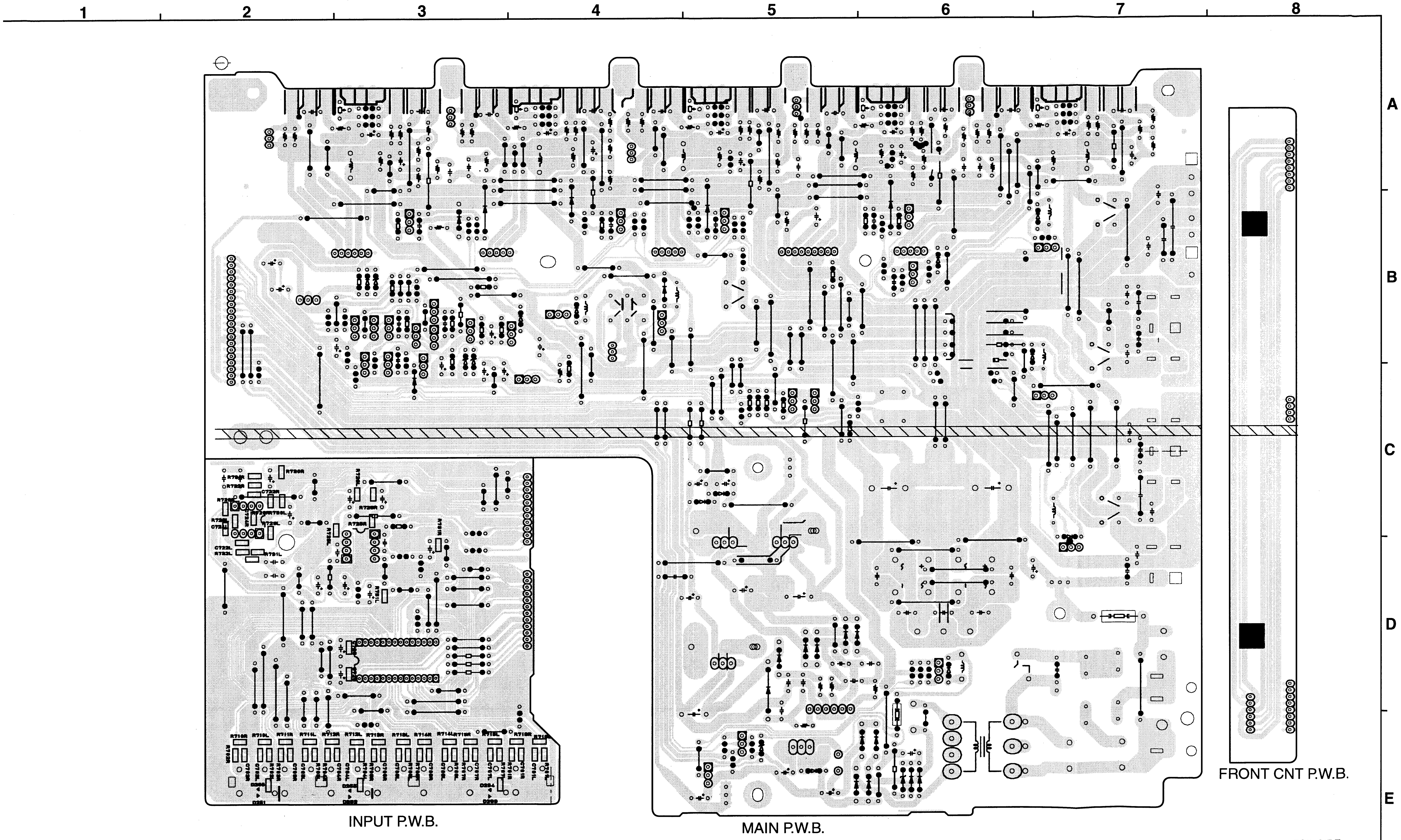
FRONT CNT P.W.B.

MAIN P.W.B.


5
6
7
8
A
B
C
D
E
2SB1559
2SD2389
CENTER RLY
H/P RLY
BAR CODE
CAUTION
: FOR CONTINUED PROTECTION AGAINST A RISK
OF FIRE HAZARD, REPLACE ONLY WITH
SAME TYPE AND RATING OF FUSE(S).
ATTENTION
: REMPLACER UNIQUEMENT PAR UN FUSIBLE
DE MEME TYPE
7020-06098-101-0
MAIN
7020-06098-201-0
INPUT
IN
ICT
OP
ADJ
FI
7815
7915
7805
4700/35
1000/35
6800/16
1000/25
S/L
C
S/R
FR
CP501
CP502
CP503
CP108
CP104
RLY104
RLY105
IC101
IC102
IC104
IC105
IC701
IC702
IC703
NJM2068
TC9273N-007
CN701
CN702
HPF-R
HPF-L
R1-OUT
L1-OUT
L2-OUT
R2-OUT
TUNER-R
TUNER-L
V-AUX-L
V-AUX-R
-15V
+15V
DATA
CLK
CE
-VKK
SURR
SPK A
PROTECT
LIMIT
H/P MUTE
RLY CNT
RLY SPK B
PWR DOWN
RLY.POWER
+5.8V(CPU)
CPU GND
GND
DSP GND
+5V(DSP)
MUTE +B
CDR/TAPE OUT
VCR OUT
CDR/TAPE
VCR
TV/DBS
DVD/VDP
CD
JK701
JK702
JK703
N15
GND102
GND103

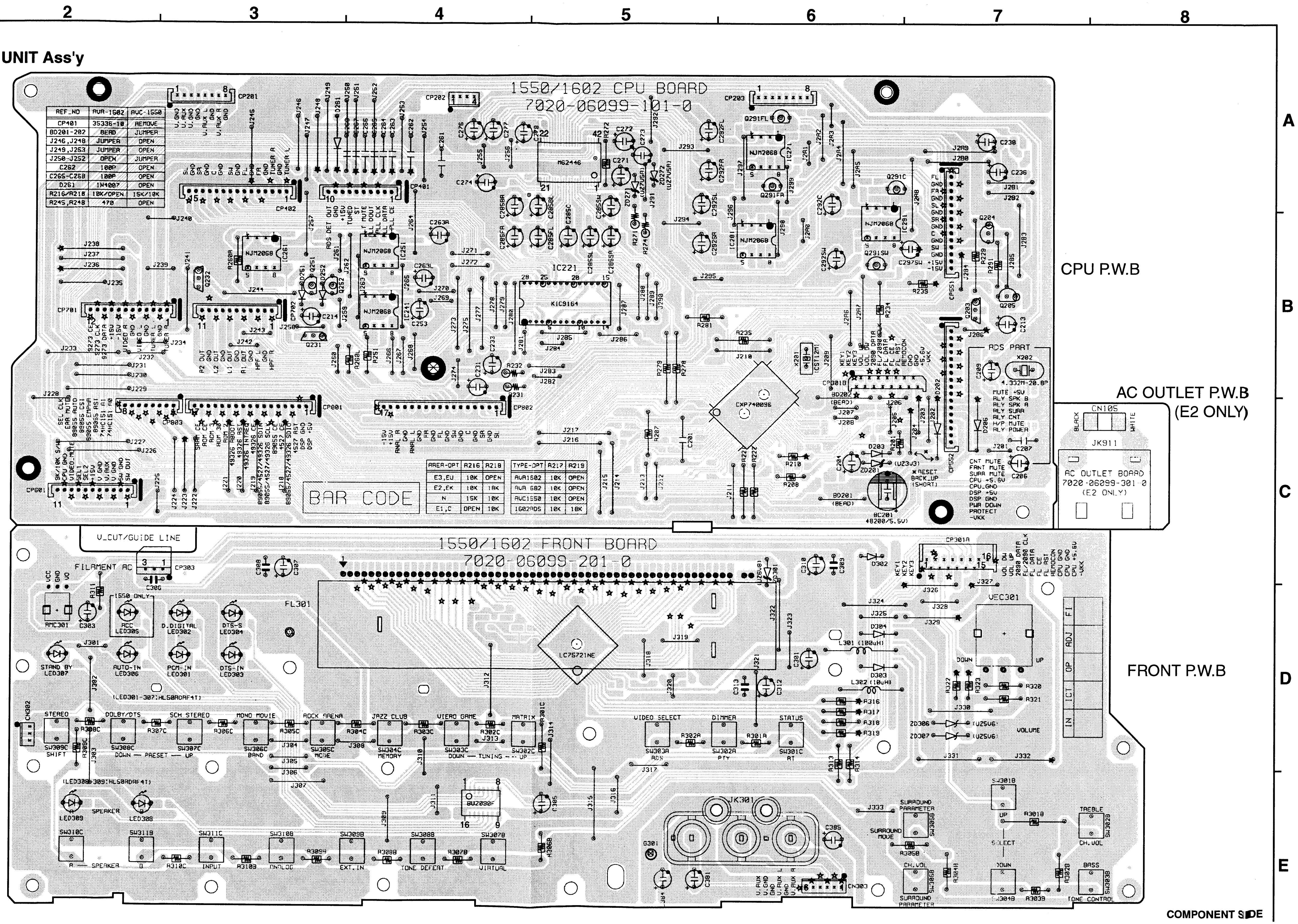
INPUT P.W.B.

COMPONENT SIDE


1
2
3
4
5
6
7
8
A
B
C
D
E
R730R
R724R
R722R
C722R
R728R
R729R
R728L
R723L
C721L
C724R
R728L
C722L
R722L
R731L
R710R
R710L
R711R
R711L
R712R
R712L
R713R
R713L
R714R
R714L
R715R
R715L
R716R
D260
D261
D262
D263
D264
D265
INPUT P.W.B.
MAIN P.W.B.
FRONT CNT P.W.B.

FOIL SIDE

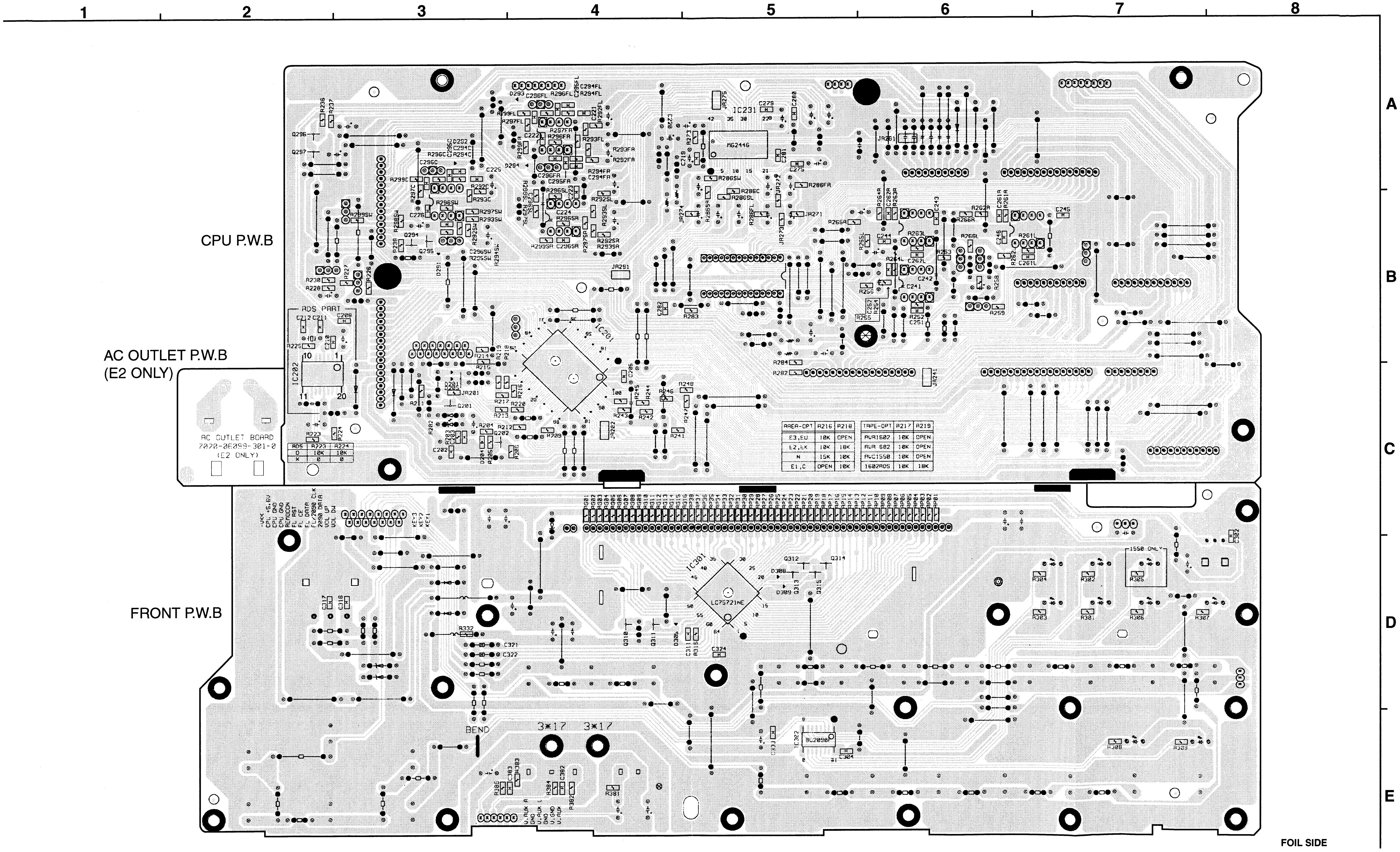
## CPU P.W.B. UNIT Ass'y


1
2
3
4
5
6
7
8
A
B
C
D
E
1550/1602 CPU BOARD
7020-06099-101-0
CPU P.W.B
AC OUTLET P.W.B
(E2 ONLY)
AC OUTLET BOARD
7020-06099-301-0
(E2 ONLY)
CN105
JK911
BLACK
WHITE
1550/1602 FRONT BOARD
7020-06099-201-0
FRONT P.W.B
BAR CODE
V_CUT/GUIDE LINE
RDS PART
IC221
KIC9164
M62446
NJM2068
CXP740096
LC75721NE
BU2090F
FL301
VEC301
JK301
CP201
CP202
CP203
CP401
CP402
CP551
CP552
CP601
CP701
CP801
CP802
CP803
CP301A
CP301B
CP303
CN303
CN302
X202
BC201
BD201
BD202
X201
FILAMENT AC
RMC301
STAND BY
LED307
ACC
LED305
D.DIGITAL
LED302
DTS-S
LED304
AUTO-IN
LED306
PCM-IN
LED301
DTS-IN
LED303
(LED301-307:HL50RDAF4T)
(LED308-309:HL50RDAF4T)
SPEAKER
LED309
LED308
STEREO
DOLBY/DTS
5CH STEREO
MONO MOVIE
ROCK ARENA
JAZZ CLUB
VIDEO GAME
MATRIX
SHIFT
DOWN — PRESET — UP
BAND
MODE
MEMORY
DOWN — TUNING — UP
VIDEO SELECT
DIMMER
STATUS
RDS
PTY
RT
A — SPEAKER — B
INPUT
ANALOG
EXT. IN
TONE DEFEAT
VIRTUAL
SURROUND PARAMETER
SURROUND MODE
CH.VOL
SELECT
UP
DOWN
TREBLE
BASS
TONE CONTROL
VOLUME
L301 (100uH)
L302 (10uH)
1550 ONLY
X RESET
BACK_UP
(SHORT)
COMPONENT SIDE

| REF_NO | AVR-1602 | AVC-1550 |
|---|---|---|
| CP401 | 35336-10 | REMOVE |
| BD201-202 | BEAD | JUMPER |
| J246,J248 | JUMPER | OPEN |
| J249,J253 | JUMPER | OPEN |
| J250-J252 | OPEN | JUMPER |
| C262 | 100P | OPEN |
| C265-C268 | 100P | OPEN |
| D261 | 1N4007 | OPEN |
| R216/R218 | 10K/OPEN | 15K/10K |
| R245,R248 | 470 | OPEN |

| AREA-OPT | R216 | R218 |
|---|---|---|
| E3,EU | 10K | OPEN |
| E2,EK | 10K | 10K |
| N | 15K | 10K |
| E1,C | OPEN | 10K |

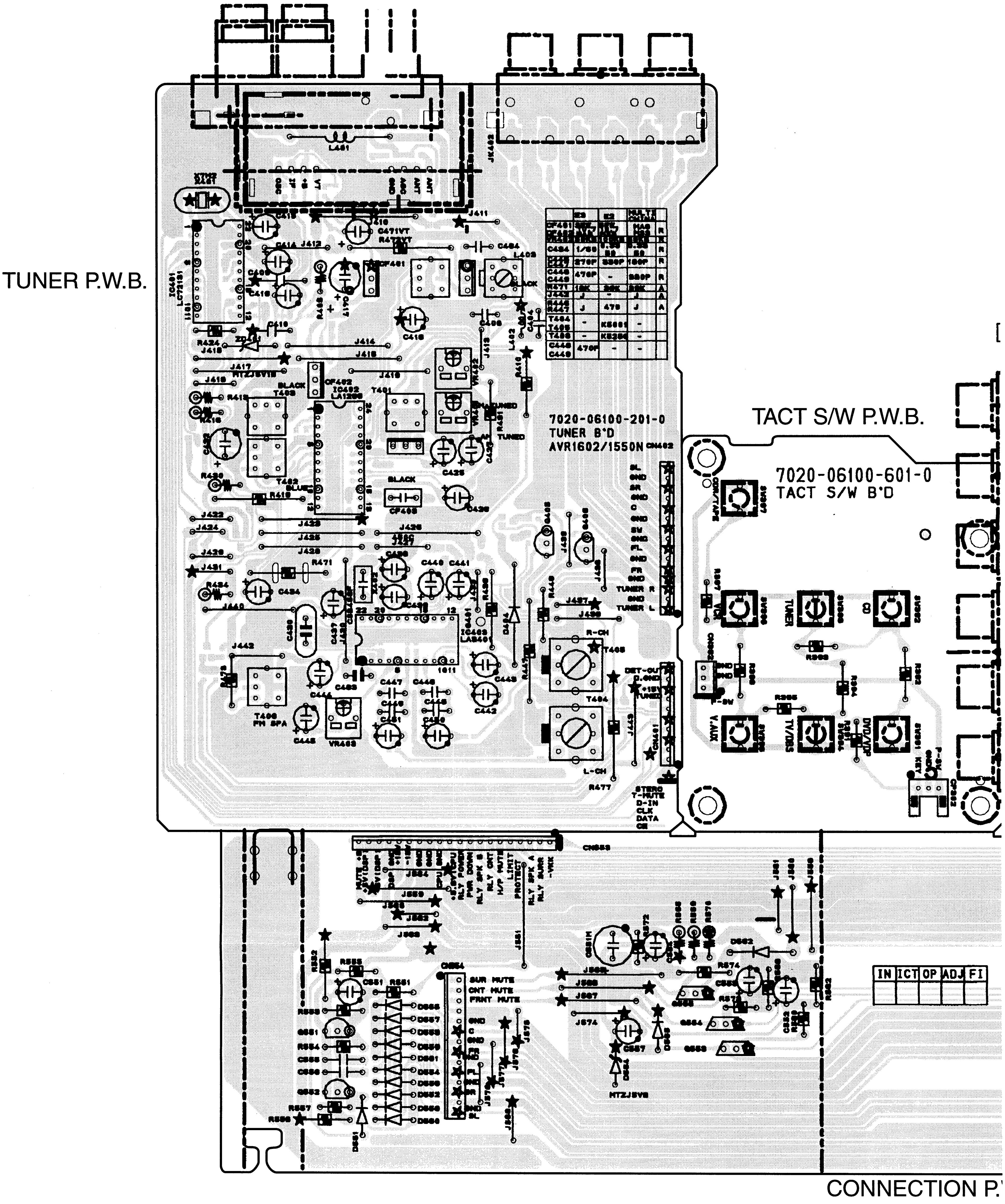
| TYPE-OPT | R217 | R219 |
|---|---|---|
| AVR1602 | 10K | OPEN |
| AVR 682 | 10K | OPEN |
| AVC1550 | 10K | OPEN |
| 1602RDS | 10K | 10K |

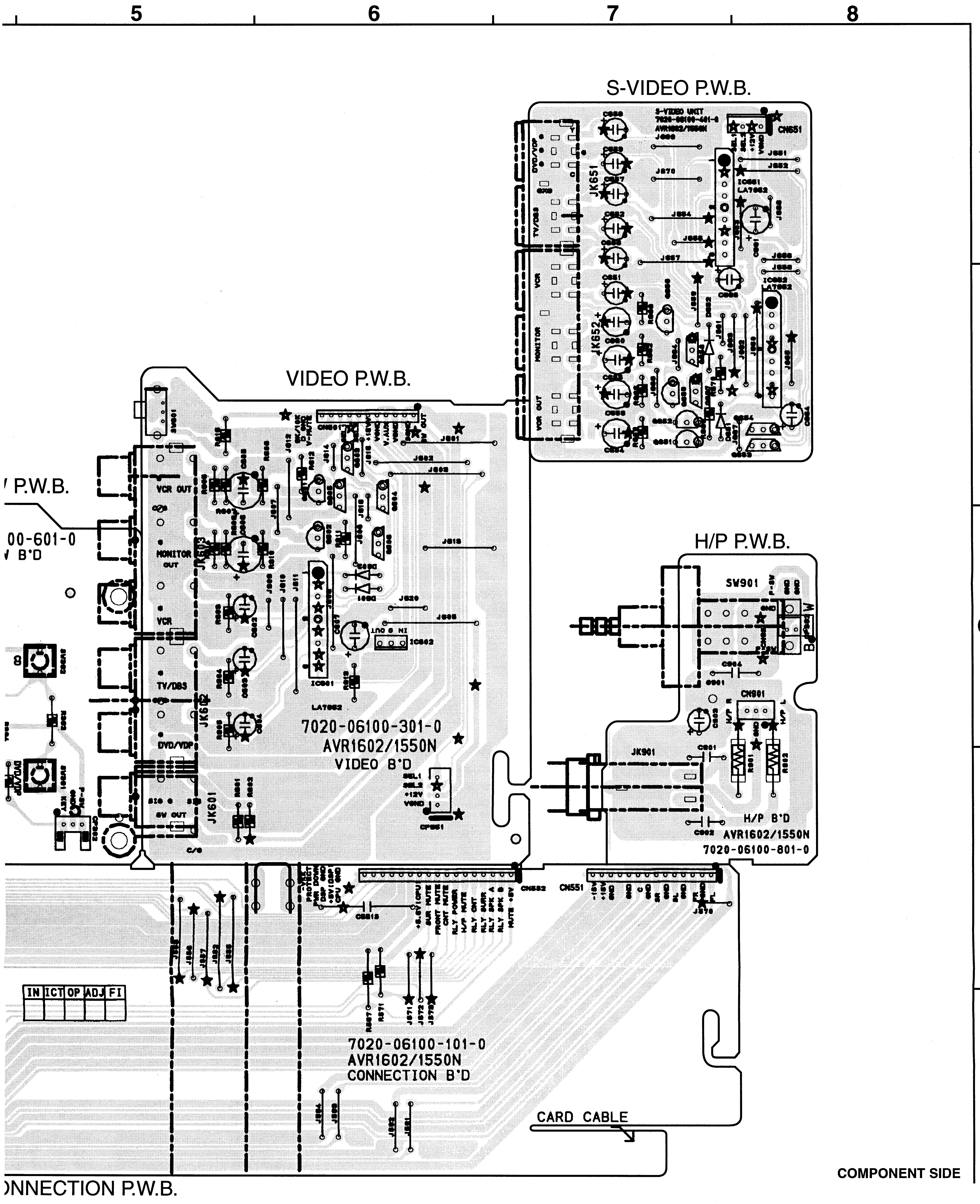

1
2
3
4
5
6
7
8
A
B
C
D
E
CPU P.W.B
AC OUTLET P.W.B
(E2 ONLY)
FRONT P.W.B
AC OUTLET BOARD
7020-06099-301-0
(E2 ONLY)
RDS PART
IC201
IC202
IC231
M62446
IC301
LC75721NE
BU2090F
RDS | R223 | R224
O | 10K | 10K
× | 0 | 0
AREA-OPT | R216 | R218
E3,EU | 10K | OPEN
E2,EK | 10K | 18K
N | 15K | 10K
E1,C | OPEN | 10K
TAPE-OPT | R217 | R219
AVR1602 | 10K | OPEN
AVR 682 | 10K | OPEN
AVC1550 | 10K | OPEN
1602RDS | 10K | 18K
1550 ONLY
BEND
3×17
3×17

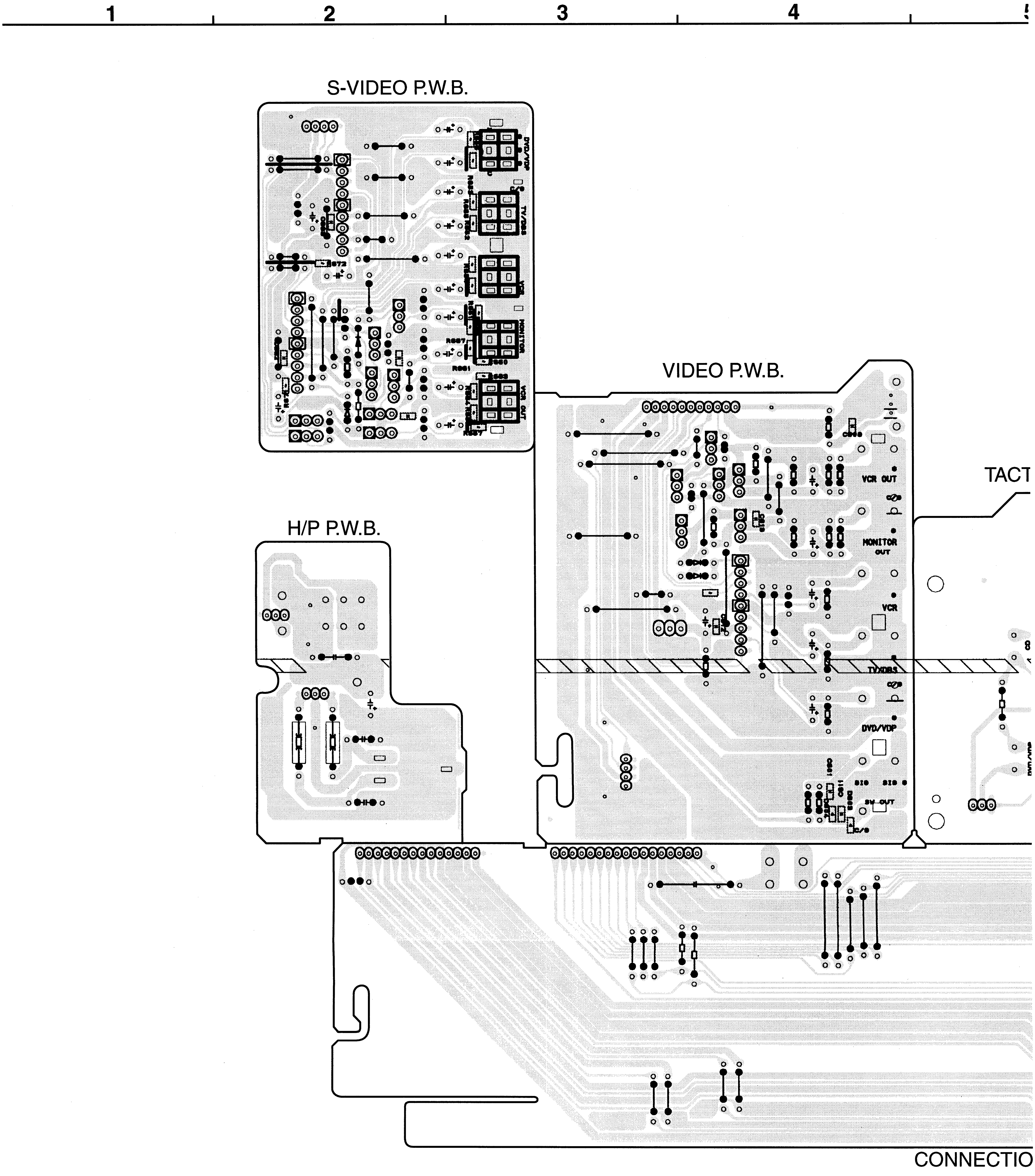
FOIL SIDE

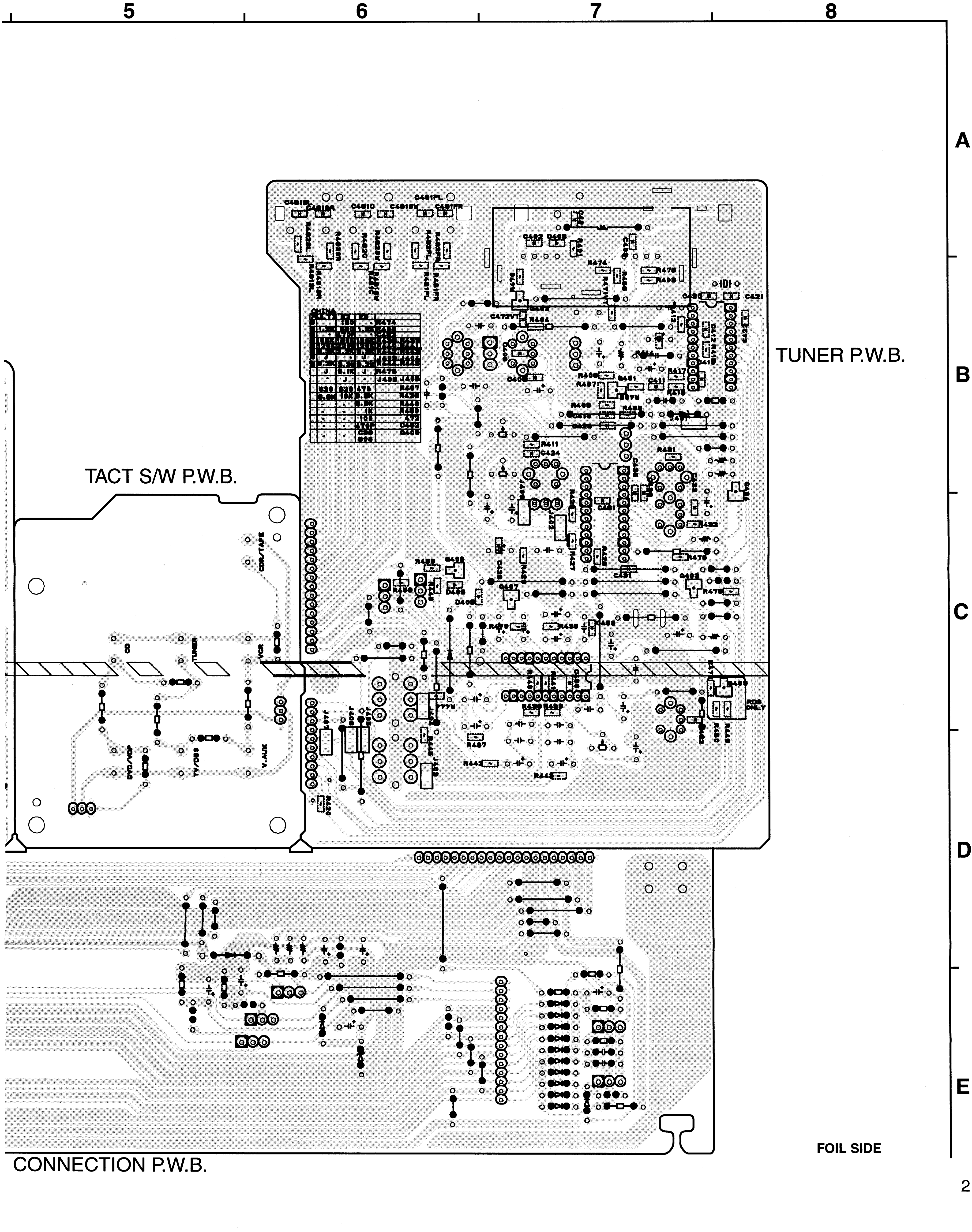
1 2 3 4

## CONNECTION P.W.B. UNIT Ass'y


TUNER P.W.B.
TACT S/W P.W.B.
7020-06100-201-0
TUNER B'D
AVR1602/1550N
7020-06100-601-0
TACT S/W B'D
CONNECTION P.
IN
ICT
OP
ADJ
FI

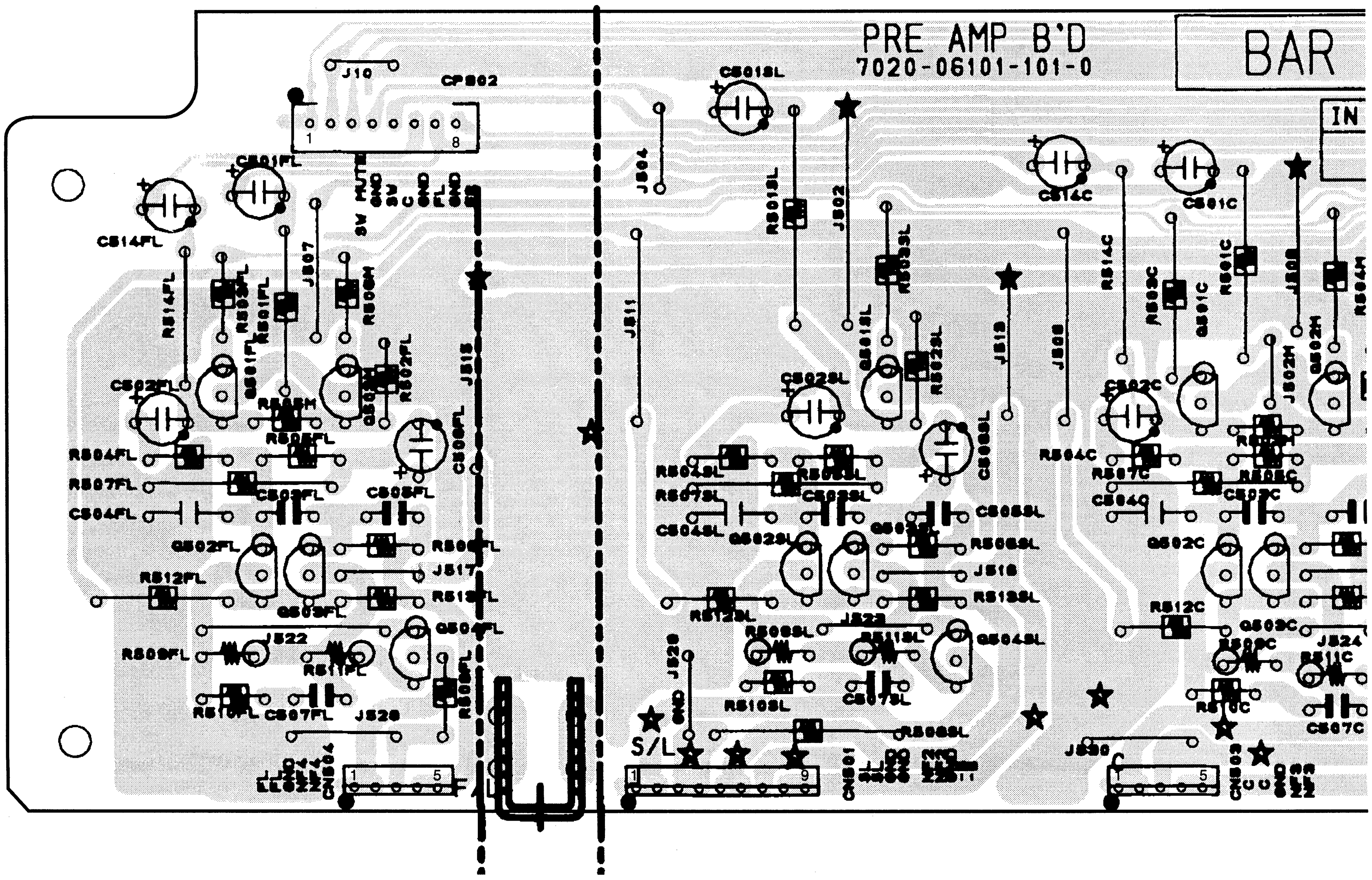

5
6
7
8
A
B
C
D
E
S-VIDEO P.W.B.
S-VIDEO UNIT
7020-06100-401-0
AVR1602/1550N
CN651
JK651
JK652
IC651
LA7952
IC652
DVD/VDP
TV/DBS
VCR
MONITOR
VCR OUT
VIDEO P.W.B.
P.W.B.
00-601-0
B'D
VCR OUT
MONITOR OUT
VCR
TV/DBS
DVD/VDP
S-VIDEO OUT
JK601
JK602
JK603
IC601
LA7952
IC602
CN601
7020-06100-301-0
AVR1602/1550N
VIDEO B'D
SEL1
SEL2
+12V
VGND
CP651
H/P P.W.B.
SW901
CN901
JK901
R901
R902
C901
C902
C903
C904
H/P B'D
AVR1602/1550N
7020-06100-801-0
CN552
CN551
C551
IN
ICT
OP
ADJ
FI
7020-06100-101-0
AVR1602/1550N
CONNECTION B'D
CARD CABLE
COMPONENT SIDE
ONNECTION P.W.B.

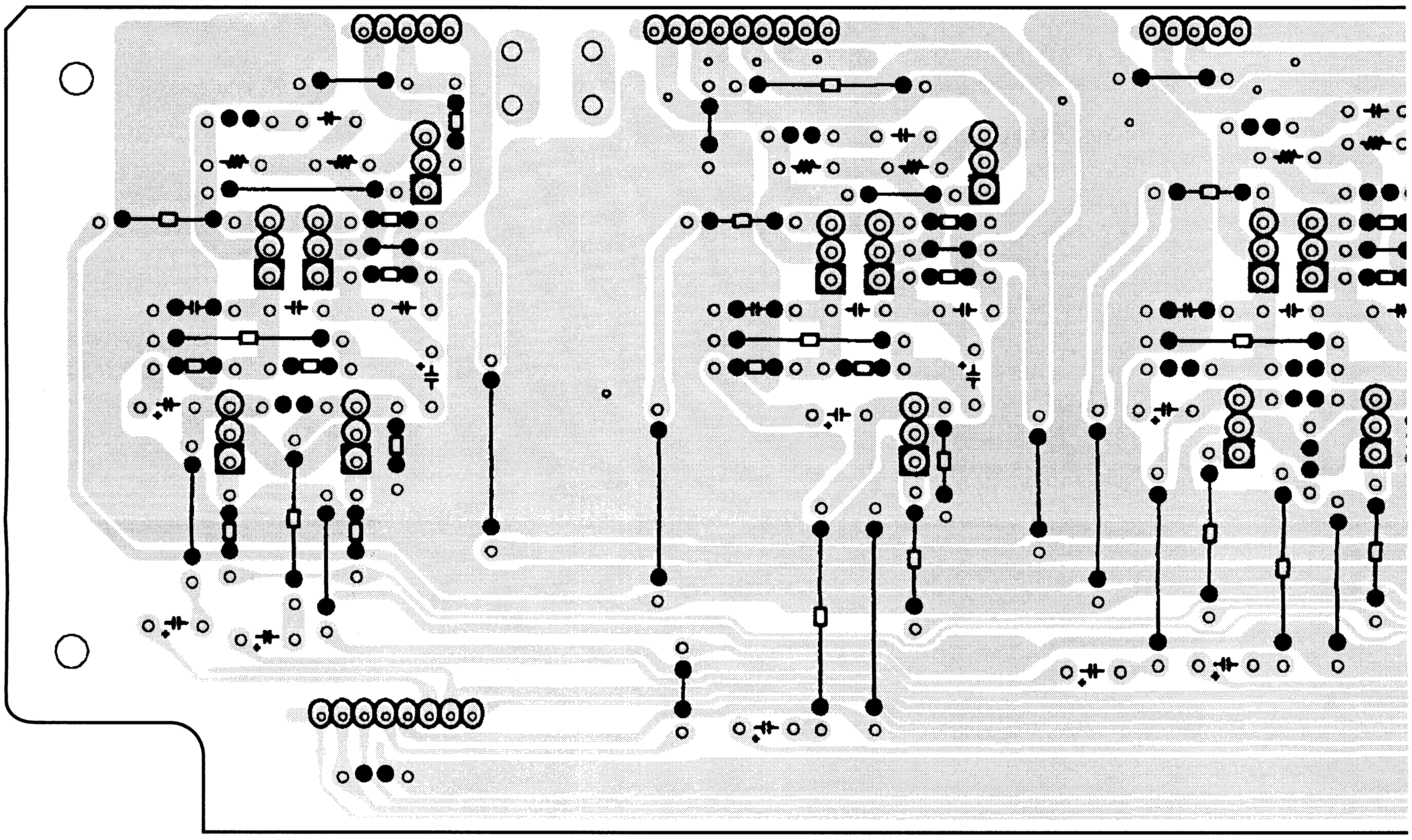

1
2
3
4
S-VIDEO P.W.B.
DVD/VDP
TV/DBS
VCR
MONITOR
VCR OUT
VIDEO P.W.B.
VCR OUT
MONITOR
OUT
VCR
TV/DBS
DVD/VDP
SV OUT
TACT
H/P P.W.B.
CONNECTIO

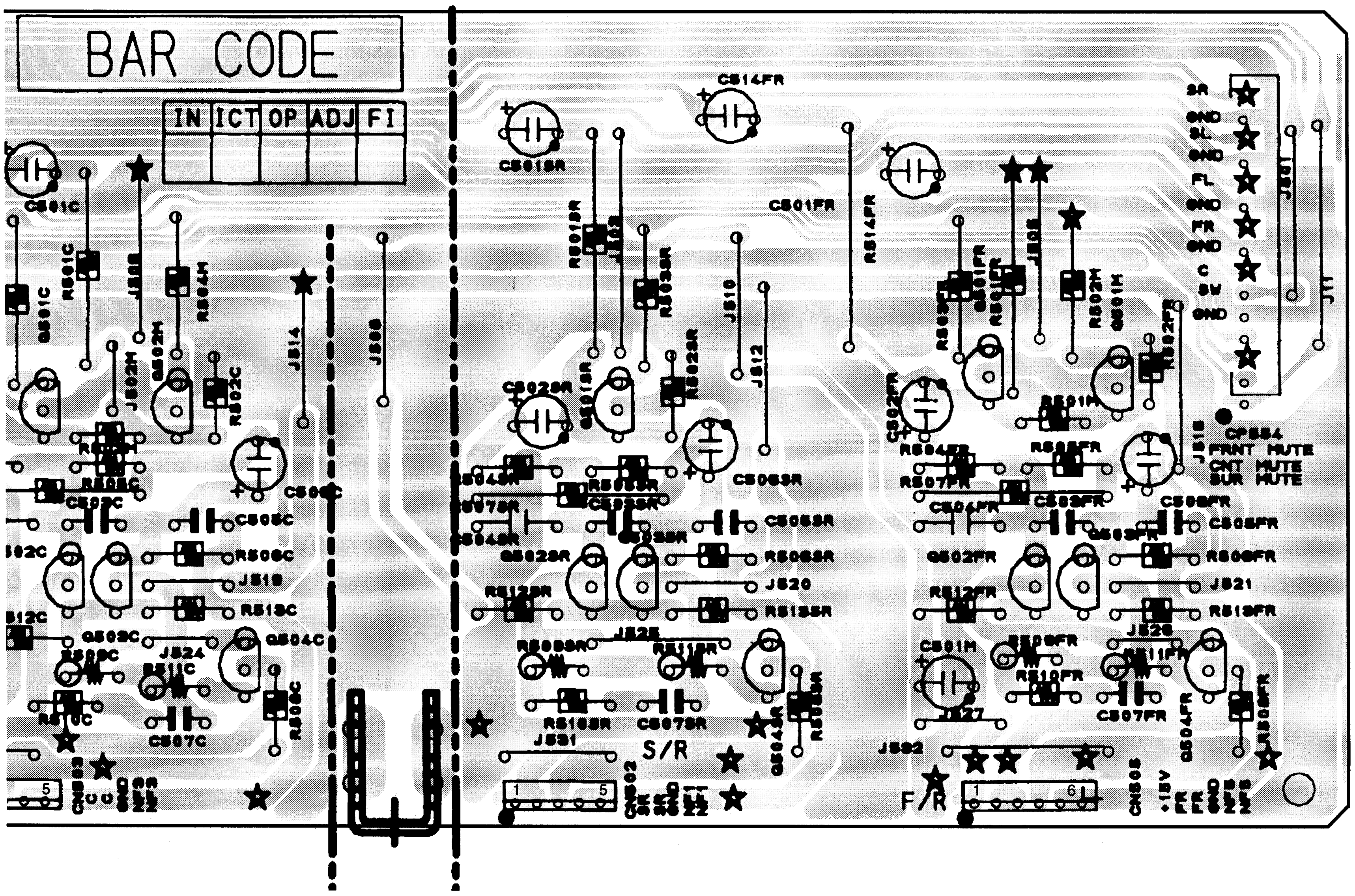

5
6
7
8
A
B
C
D
E
TUNER P.W.B.
TACT S/W P.W.B.
CONNECTION P.W.B.
FOIL SIDE
CHINA
RDS ONLY
CDR/TAPE
CD
TUNER
VCR
DVD/VDP
TV/DBS
V.AUX

1 2 3 4

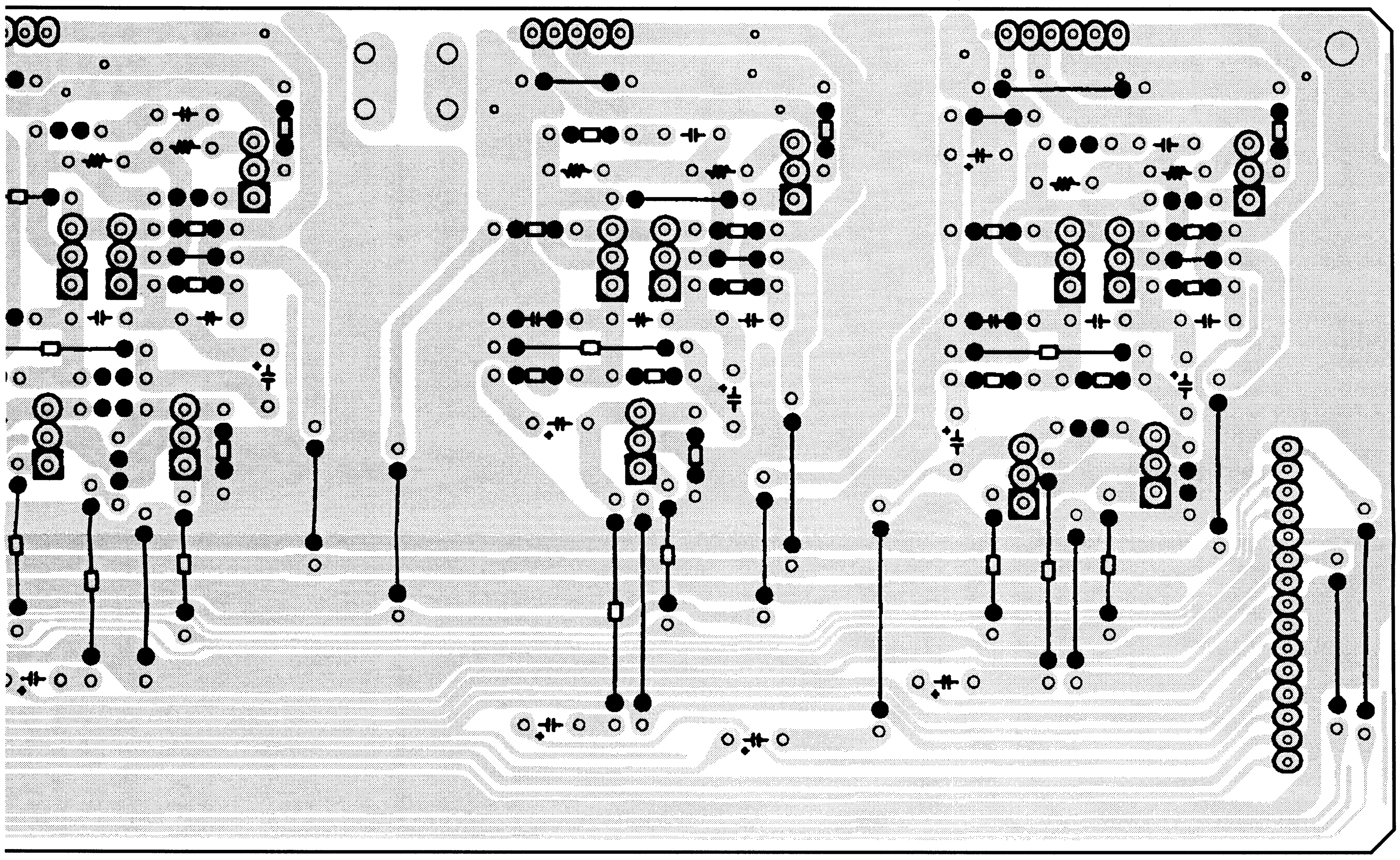
## PRE AMP P.W.B. UNIT Ass'y


PRE AMP B'D
7020-06101-101-0
BAR
IN
J10
CP802
1
8
SW MUTE
GND
SW
C
GND
FL
GND
C501SL
C501FL
C514FL
C514C
C501C
R514FL
R503FL
R501FL
J507
R506M
J504
R501SL
J502
R503SL
J511
J515
R514C
R503C
R501C
J508
R504M
C502FL
C502SL
C502C
R504FL
R507FL
C504FL
C503FL
C505FL
R506FL
J517
R513FL
R512FL
Q502FL
Q503FL
Q504FL
R509FL
J522
R511FL
R510FL
C507FL
J528
R508FL
CNS04
R504SL
R507SL
C504SL
C503SL
C505SL
R506SL
J518
R513SL
R512SL
R509SL
J523
R511SL
Q504SL
R510SL
C507SL
R508SL
J526
GND
S/L
CNS01
J519
J509
R504C
R507C
R505C
C504C
C503C
Q502C
R512C
Q503C
J524
R509C
R511C
R510C
C507C
J530
CNS03
1
5
9



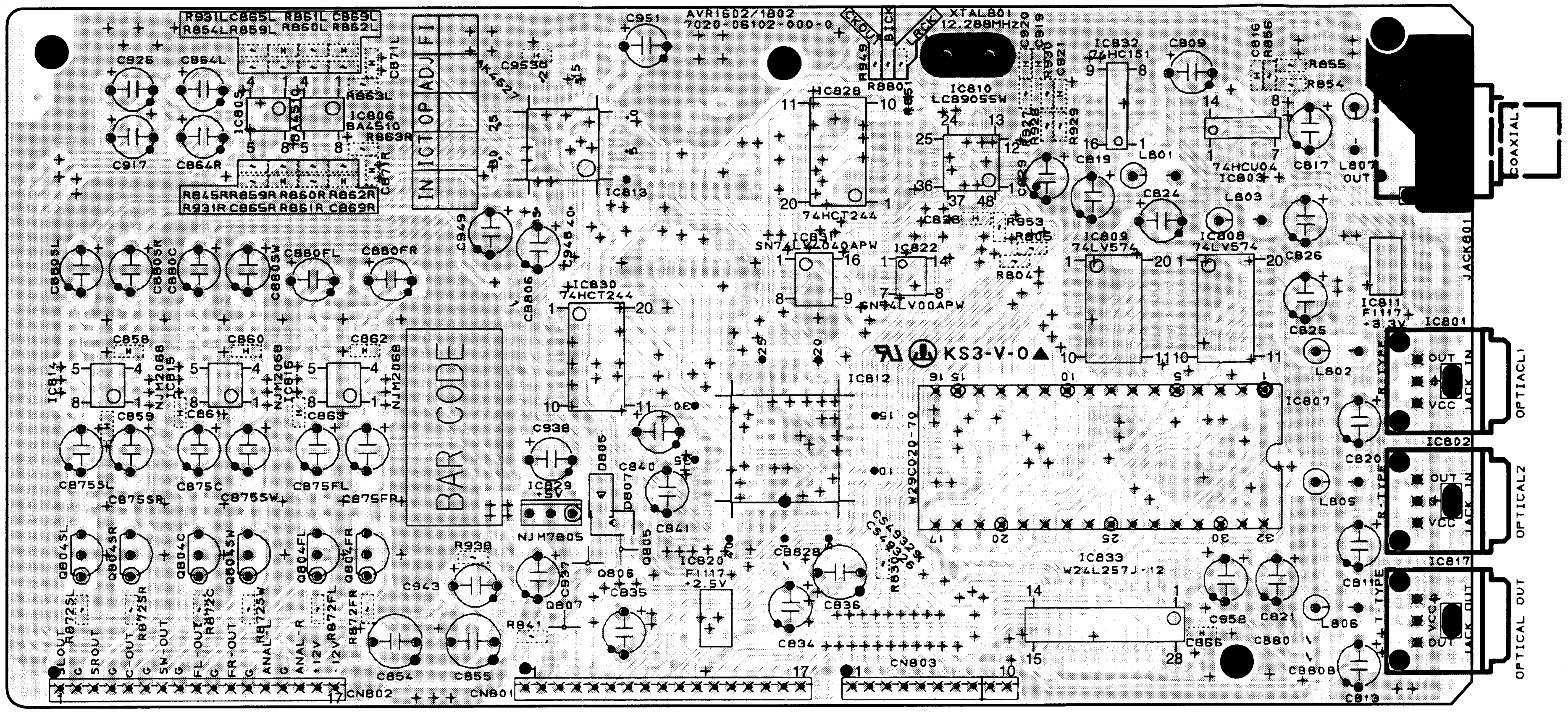

5
6
7
8
A
B
C
BAR CODE
IN
ICT
OP
ADJ
FI
CS14FR
CS01SR
CS01FR
CS01C
S/R
F/R
SR
GND
SL
FL
FR
C
SW
CP554
FRNT MUTE
CNT MUTE
SUR MUTE
+15V

COMPONENT SIDE

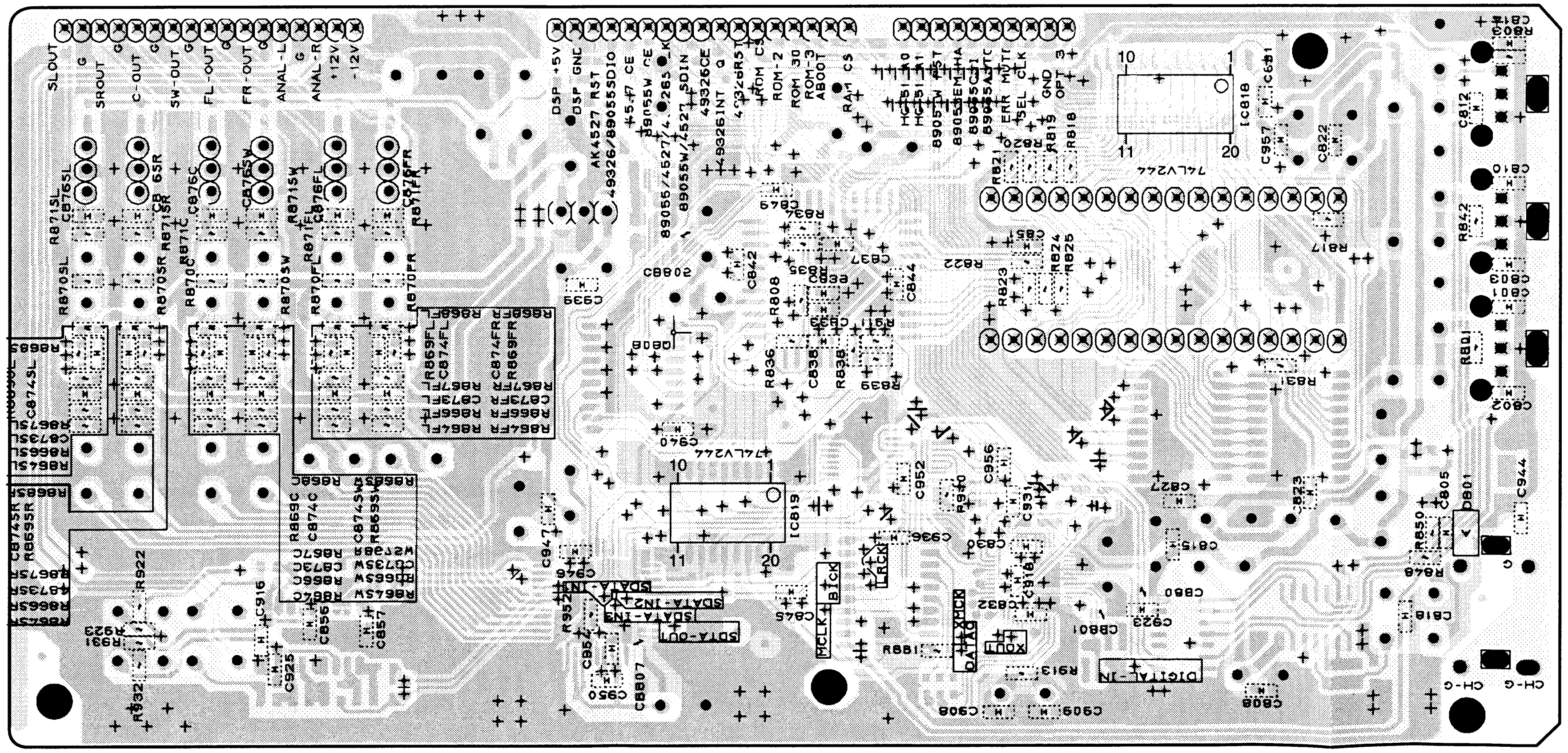


FOIL SIDE

## DSP P.W.B. UNIT Ass'y


1
2
3
4
5
6
7
8
A
B
AVR1602/1802
7020-06102-000-0
XTAL801
12.288MHz
IC810
LC89055W
IC832
74HC151
IC828
74HCT244
IC830
74HCT244
IC809
74LV574
IC808
74LV574
IC803
74HCU04
IC805
BA4510
IC806
BA4510
IC833
W24L257J-12
W29C020-70
IC829
NJM7805
IC820
F1117
IC811
F1117
IC813
AK4527
NJM2068
BAR CODE
KS3-V-0
COAXIAL
JACK801
IC801
OPTICAL1
IC802
OPTICAL2
IC817
OPTICAL OUT
CN801
CN802
CN803

COMPONENT SIDE

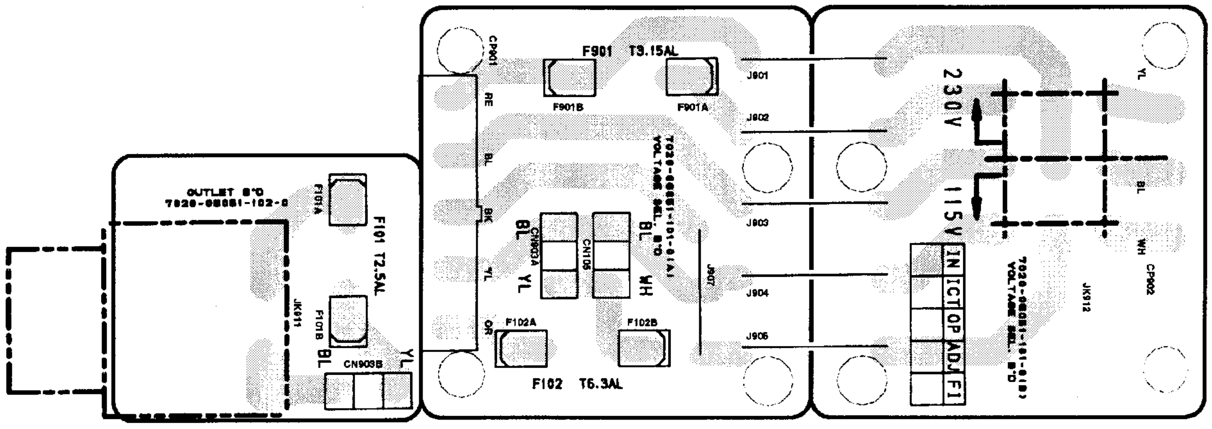

C
D
E
74LV244
IC818
IC819
DIGITAL-IN
SDATA-OUT
SDATA-IN1
SDATA-IN2
SDATA-IN3
MCLK
BICK
LRCK
CH-G

FOIL SIDE

1 2 3 4

## VOLTAGE SEL P.W.B. UNIT Ass'y

A


OUTLET B'D
7020-06081-102-0
F101A
F101 T2.5AL
F101B
JK911
BL
CN903B
YL
CP901
RE
BL
BK
YL
OR
F901 T3.15AL
F901B
F901A
7020-06081-101-01A
VOLTAGE SEL. B'D
BL
CN903A
YL
CN105
BL
WH
F102A
F102B
F102 T6.3AL
J907
J901
J902
J903
J904
J905
230V
115V
IN
ICT
OP
ADJ
F1
7020-06081-101-01B
VOLTAGE SEL. B'D
JK912
YL
BL
WH
CP902

COMPONENT SIDE

B

C

D

E

# NOTE FOR PARTS LIST

- Part indicated with the mark "◎" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

**WARNING:**

Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

## Resistors

| **Ex.:** | RN | 14K | 2E | 182 | G | FR |
|---|---|---|---|---|---|---|
| | Type | Shape and performance | Power | Resistance | Allowable error | Others |

| | | | |
|---|---|---|---|
| RD : Carbon | 2B : 1/8W | F : ±1% | P : Pulse-resistant type |
| RC : Composition | 2E : 1/4W | G : ±2% | NL : Low noise type |
| RS : Metal oxide film | 2H : 1/2W | J : ±5% | NB : Non-burning type |
| RW : Winding | 3A : 1W | K : ±10% | FR : Fuse-resistor |
| RN : Metal film | 3D : 2W | M : ±20% | F : Lead wire forming |
| RK : Metal mixture | 3F : 3W | | |
| | 3H : 5W | | |

**∗ Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number.
2-digit effective number.

- Units: ohm

1 R 2 ⇒ 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.

- Units: ohm

## Capacitors

| **Ex.:** | CE | 04W | 1H | 2R2 | M | BP |
|---|---|---|---|---|---|---|
| | Type | Shape and performance | Dielectric strength | Capacity | Allowable error | Others |

| | | | |
|---|---|---|---|
| CE : Aluminum foil electrolytic | 0J : 6.3V | F : ±1% | HS : High stability type |
| CA : Aluminum solid electrolytic | 1A : 10V | G : ±2% | BP : Non-polar type |
| CS : Tantalum electrolytic | 1C : 16V | J : ±5% | HR : Ripple-resistant type |
| CQ : Film | 1E : 25V | K : ±10% | DL : For change and discharge |
| CK : Ceramic | 1V : 35V | M : ±20% | HF : For assuring high requency |
| CC : Ceramic | 1H : 50V | Z : +80% −20% | U : UL part |
| CP : Oil | 2A : 100V | | C : CSA part |
| CM : Mica | 2B : 125V | P : +100% −0% | W : UL-CSA type |
| CF : Metallized | 2C : 160V | | F : Lead wire forming |
| CH : Metallized | 2D : 200V | C : ±0.25pF | |
| | 2E : 250V | D : ±0.5pF | |
| | 2H : 500V | = : Others | |
| | 2J : 630V | | |

**∗ Capacity (electrolyte only)**

2 2 2 ⇒ 2200µF
Indicates number of zeros after effective number.
2-digit effective number.

- Units: µF.

2 R 2 ⇒ 2.2µF
1-digit effective number.
2-digit effective number, decimal point indicated by R.

- Units: µF.

**∗ Capacity (except electrolyte)**

2 2 2 ⇒ 2200pF=0.0022µF
(More than 2)—Indicates number of zeros after effective number.
2-digit effective number.

- Units: pF.

2 2 1 ⇒ 220pF
(0 or 1)—— Indicates number of zeros after effective number.
2-digit effective number.

- Units: pF.

- When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

# PARTS LIST OF P.W.B. UNIT ASS'Y

## MAIN P.W.B. ASS'Y

**Note :** The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A. & Canada model
EU: U.S.A. model (AVR-682)
E2: Europe model
E1: Asia model
E1C: China model
E1H: Hong Kong model
E1T: Taiwan R.O.C. model

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| **SEMICONDUCTORS GROUP** | | | |
| IC101 | 963 0057 903 | IC KIA7815AP | |
| IC102 | 963 0044 806 | IC NJM7915FA | |
| IC103 | 960 0196 001 | IC NJM7805FA | |
| IC104 | 963 0057 709 | IC KIA7805AP | |
| IC105 | 960 0195 808 | IC ICP-N15 | |
| IC701 | 960 0174 308 | IC TC9273N-007 | |
| IC702,703 | 960 0179 701 | IC NJM2068DD | |
| Q104C | 960 0196 506 | Transistor KSC1845F | |
| Q104FL,104FR | 960 0196 506 | Transistor KSC1845F | |
| Q104SL,104SR | 960 0196 506 | Transistor KSC1845F | |
| Q111-115 | 960 0196 904 | Transistor DTC114YS | |
| Q116 | 960 0196 409 | Transistor 2SC1740SR | |
| Q117 | 960 0196 904 | Transistor DTC114YS | |
| Q151 | 960 0196 409 | Transistor 2SC1740SR | |
| Q171 | 960 0005 202 | Transistor KTC3198Y | |
| Q171A-171C | 960 0196 302 | Transistor KTA1268BL | |
| Q172-177 | 960 0005 202 | Transistor KTC3198Y | |
| Q178 | 960 0005 105 | Transistor KTA1266Y | |
| Q179 | 960 0189 005 | Transistor KSA916Y | |
| Q180,181 | 960 0196 302 | Transistor KTA1268BL | |
| D101-105 | 963 0020 309 | Diode 1SS133T | |
| D121-126 | 963 0020 309 | Diode 1SS133T | |
| D131A,131B | 960 0197 107 | Diode KBPC604 | |
| D132 | 963 0020 309 | Diode 1SS133T | |
| D133,134 | 963 0046 202 | Diode MTZJ18B | |
| D135 | 963 0020 309 | Diode 1SS133T | |
| D136 | 963 0058 504 | Diode MTZJ11B | |
| D137 | 963 0020 309 | Diode 1SS133T | |
| D138 | 963 0058 407 | Diode 1N4007 | |
| D141-146 | 963 0058 407 | Diode 1N4007 | |
| D148 | 963 0020 309 | Diode 1SS133T | |
| D149,150 | 963 0058 407 | Diode 1N4007 | |
| D151 | 963 0020 309 | Diode 1SS133T | |
| D152,153 | 963 0058 407 | Diode 1N4007 | |
| D154 | 963 0047 405 | Diode MTZJ7.5B | |
| D157 | 963 0058 708 | Diode MTZJ20B | |
| D158-160 | 963 0020 309 | Diode 1SS133T | |
| **RESISTORS GROUP** | | | |
| R104C | 244 2052 957 | Metal film 5.6 kohm 1W | |
| R104FL,104FR | 244 2052 957 | Metal film 5.6 kohm 1W | |
| R104SL,104SR | 244 2052 957 | Metal film 5.6 kohm 1W | |
| R105C | 244 2052 957 | Metal film 5.6 kohm 1W | |
| R105FL,105FR | 244 2052 957 | Metal film 5.6 kohm 1W | |
| R105SL,105SR | 244 2052 957 | Metal film 5.6 kohm 1W | |
| R106C | 244 2051 987 | Metal film 4.7 ohm 1W | |
| R106FL,106FR | 244 2051 987 | Metal film 4.7 ohm 1W | |
| R106SL,106SR | 244 2051 987 | Metal film 4.7 ohm 1W | |
| R107C | 244 2051 987 | Metal film 4.7 ohm 1W | |
| R107FL,107FR | 244 2051 987 | Metal film 4.7 ohm 1W | |
| R107SL,107SR | 244 2051 987 | Metal film 4.7 ohm 1W | |
| R108C | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R108FL,108FR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R108SL,108SR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R109C | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R109FL,109FR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R109SL,109SR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R110C | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R110FL,110FR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R110SL,110SR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R111C | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R111FL,111FR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R111SL,111SR | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R118C | 244 2043 937 | Metal oxide 10 ohm 1W(NB) | |
| R118FL,118FR | 244 2043 937 | Metal oxide 10 ohm 1W(NB) | |
| R118SL,118SR | 244 2043 937 | Metal oxide 10 ohm 1W(NB) | |
| R119C | 244 2043 937 | Metal oxide 10 ohm 1W(NB) | |
| R119FL,119FR | 244 2043 937 | Metal oxide 10 ohm 1W(NB) | |
| R119SL,119SR | 244 2043 937 | Metal oxide 10 ohm 1W(NB) | |
| R135,136 | 963 0045 203 | Winding 0.1 ohm 5W | |
| R141,142 | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R148,149 | 244 2043 982 | Metal film 0.22 ohm 1W | |
| R151 | 963 9003 343 | Metal film 68 ohm 1/4W | |
| R154 | 963 0043 108 | Metal film 2.2 Mohm 1/2W | for E3,EU |
| R155,156 | 963 9003 039 | Metal film 1 ohm 1/4W | |
| R179 | 963 9003 055 | Metal film 47 kohm 1/4W | |
| R181 | 244 2051 987 | Metal film 4.7 ohm 1W | |
| R184 | 244 2043 937 | Metal oxide 10 ohm 1W(NB) | |
| R185 | 963 9003 039 | Metal film 1 ohm 1/4W | |
| R701L,701R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R702L,702R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R703L,703R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R704L,704R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R705L,705R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R706L,706R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R707L,707R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R710L,710R | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R711L,711R | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R712L,712R | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R713L,713R | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R714L,714R | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R715L,715R | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R716L,716R | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R725L,725R | 960 9003 385 | Carbon chip 100 ohm 1/16W | |
| R726L,726R | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R728L,728R | 963 9004 300 | Carbon chip 39 kohm 1/16W | |
| R729L,729R | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R730L,730R | 963 9004 083 | Carbon chip 100 kohm 1/16W | |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| R731L,731R | 963 9004 300 | Carbon chip 39 kohm 1/16W | |
| R732L,732R | 963 9004 300 | Carbon chip 39 kohm 1/16W | |
| R751L,751R | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| | | | |
| VR101-105 | 960 0091 601 | Semi fixed resistor 1 kohm | |
| **CAPACITORS GROUP** | | | |
| C101C | | Electrolytic 47uF/50V | |
| C101FL,101FR | | Electrolytic 47uF/50V | |
| C101SL,101SR | | Electrolytic 47uF/50V | |
| C102C | | Electrolytic 10uF/35V | |
| C102FL,102FR | | Electrolytic 10uF/35V | |
| C102SL,102SR | | Electrolytic 10uF/35V | |
| C103C | 963 9003 084 | Ceramic 100pF/500V | |
| C103FL,103FR | 963 9003 084 | Ceramic 100pF/500V | |
| C103SL,103SR | 963 9003 084 | Ceramic 100pF/500V | |
| C104C | 963 9003 084 | Ceramic 100pF/500V | |
| C104FL,104FR | 963 9003 084 | Ceramic 100pF/500V | |
| C104SL,104SR | 963 9003 084 | Ceramic 100pF/500V | |
| C105C | 960 9003 108 | Ceramic 0.022uF/25V | |
| C105FL,105FR | 960 9003 108 | Ceramic 0.022uF/25V | |
| C105SL,105SR | 960 9003 108 | Ceramic 0.022uF/25V | |
| C107C | 963 9003 097 | Mylar film 0.1uF/250V | |
| C107FL,107FR | 963 9003 097 | Mylar film 0.1uF/250V | |
| C107SL,107SR | 963 9003 097 | Mylar film 0.1uF/250V | |
| C131-135 | 963 9003 097 | Mylar film 0.1uF/250V | |
| C136,137 | 963 0087 203 | Electrolytic 10000uF/63V | |
| C138 | | Electrolytic 1uF/50V | |
| C141-143 | 963 0021 900 | Mylar film 0.047uF/100V | |
| C144 | 963 9003 110 | Electrolytic 4700uF/35V | |
| C145 | 963 9003 123 | Electrolytic 1000uF/35V | |
| C146 | | Electrolytic 1uF/50V | |
| C148 | | Electrolytic 1uF/50V | |
| C150-152 | 963 0021 900 | Mylar film 0.047uF/100V | |
| C153 | 963 0021 104 | Electrolytic 6800uF/16V | |
| C154 | | Electrolytic 10uF/35V | |
| C155 | 963 0020 202 | Ceramic 0.1uF/50V | |
| C157 | | Electrolytic 1uF/50V | |
| C158 | 963 9003 136 | Electrolytic 1000uF/25V | |
| C159 | | Electrolytic 1uF/50V | |
| C161 | | Electrolytic 10uF/35V | |
| C171 | | Electrolytic 100uF/10V | |
| C171A-171C | 963 0020 202 | Ceramic 0.1uF/50V | |
| C172,173 | | Electrolytic 220uF/6.3V | |
| C174 | | Electrolytic 10uF/35V | |
| C175 | | Electrolytic 4.7uF/50V | |
| C176,177 | | Electrolytic 1uF/50V | |
| C178 | 963 9003 149 | Electrolytic 330uF/63V | |
| ⚠C181 | 963 0076 104 | Ceramic 4700pF/250V(AC) | |
| C182 | 963 9004 795 | Electrolytic 10uF/100V | |
| C191-197 | | Ceramic 2200pF/16V | for E2 |
| C198C | 960 9006 202 | Ceramic 0.01uF/50V | for E2 |

| Ref. No. | Part No. | Part Name | Remarks | |
|---|---|---|---|---|
| C198FL,198FR | 960 9006 202 | Ceramic 0.01uF/50V | for E2 | |
| C198SL,198SR | 960 9006 202 | Ceramic 0.01uF/50V | for E2 | |
| C199FL,199FR | 960 9006 202 | Ceramic 0.01uF/50V | for E2 | |
| | | | | |
| C701L,701R | 963 9004 575 | Ceramic chip 100pF/50V | for E2 | |
| C702L,702R | 963 9004 575 | Ceramic chip 100pF/50V | for E2 | |
| C703L,703R | 963 9004 575 | Ceramic chip 100pF/50V | for E2 | |
| C704L,704R | 963 9004 575 | Ceramic chip 100pF/50V | for E2 | |
| C705L,705R | 963 9004 575 | Ceramic chip 100pF/50V | for E2 | |
| C706L,706R | 963 9004 575 | Ceramic chip 100pF/50V | for E2 | |
| C707L,707R | 963 9004 575 | Ceramic chip 100pF/50V | for E2 | |
| C716L,716R | | Electrolytic 10uF/35V | | |
| C718L,718R | | Electrolytic 10uF/35V | | |
| C719L,719R | | Electrolytic 10uF/35V | | |
| C720L,720R | 963 9003 152 | Mylar film 0.068uF/100V | | |
| C721L,721R | 963 9003 152 | Mylar film 0.068uF/100V | | |
| C723L,723R | | Electrolytic 10uF/35V | | |
| C724L,724R | 963 9004 698 | Ceramic chip 0.01uF/50V | | |
| C725,726 | 963 9004 698 | Ceramic chip 0.01uF/50V | | |
| C727,728 | | Electrolytic 10uF/35V | | |
| **OTHER PARTS GROUP** | | | | **Q'ty** |
| CN201 | 963 0046 309 | 8P connector base | | 1 |
| CN202 | 963 0075 707 | 4P connector base | | 1 |
| CN203 | 963 0046 309 | 8P connector base | | 1 |
| CN701 | 960 0117 103 | 12P connector base | | 1 |
| CN702 | 963 0046 600 | 11P connector base | | |
| | | | | |
| CP101 | 960 0197 505 | 2P connector base | | 1 |
| CP102 | 960 0123 304 | 2P connector base | for E3,EU,E2,E1C | 1 |
| CP102 | 963 0066 208 | 3P connector base | for E1,E1H,E1T | 1 |
| CP103 | 963 0066 208 | 3P connector base | | 1 |
| CP104 | 960 0128 804 | 6P connector base | | 1 |
| CP105 | 960 0123 304 | 2P connector base | for E2,E1,E1H,E1T | 1 |
| CP106 | 960 0123 207 | 3P connector base | | 1 |
| CP303 | 963 0075 600 | 6P connector base | | 1 |
| CP501 | 963 0046 901 | 9P connector base | | 1 |
| CP502-504 | 963 0048 608 | 5P connector base | | 3 |
| CP505 | 963 0049 500 | 6P connector base | | 1 |
| CP553 | 963 0048 802 | 20P connector base | | 1 |
| CP901 | 963 0048 909 | 3P connector base | | 1 |
| CP931 | 960 0123 304 | 2P connector base | for E2,E1,E1C,E1H,E1T | 1 |
| | | | | |
| ⚠F101 | 960 0188 705 | Fuse 125V-8A | for E3,EU | 1 |
| ⚠F101 | 960 0142 602 | Fuse 250V-T2.5A | for E2 | 1 |
| F101A,101B | 960 0005 804 | Fuse clip | for E3,EU,E2 | 2 |
| ⚠F102 | 960 0188 705 | Fuse 125V-8A | for E3,EU | 1 |
| ⚠F102 | 963 0044 709 | Fuse 250V-T3.15A | for E2,E1C | 1 |
| F102A,102B | 960 0005 804 | Fuse clip | for E3,EU,E2,E1C | 2 |
| | | | | |
| GND101-103 | 960 9006 600 | Terminal | | 3 |

**Note :** The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A. & Canada model
E2: Europe model
E1C: China model
E1T: Taiwan R.O.C. model
EU: U.S.A. model (AVR-682)
E1: Asia model
E1H: Hong Kong model

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| JK103 | 960 0194 809 | 2P Terminal | | 1 |
| ⚠JK104 | 960 0181 508 | AC outlet | for E3,EU | 1 |
| L101C | 963 0049 005 | Inductor 0.5uH | | 1 |
| L101FL,101FR | 963 0049 005 | Inductor 0.5uH | | 2 |
| L101SL,101SR | 963 0049 005 | Inductor 0.5uH | | 2 |
| RLY101-104 | 960 0181 702 | Relay G5PA-28 24V 5A | | 4 |
| RLY105 | 963 0071 303 | Relay RSB24S 24V 2A30VDC | | 1 |
| RLY106 | 960 0181 605 | Relay G5PA-1-8 12V 5A | | 1 |
| TP101-105 | 960 0161 405 | 3P connector base | | 5 |
| | — | Heat sink | | 1 |
| | — | Heat sink | | 1 |
| | 963 0068 400 | Condenser cover | for E2,E1,E1C,E1H,E1T | 1 |
| | 963 0060 000 | Fuse label F101 | for E2 | 1 |
| | 963 0090 504 | Fuse label F102 | for E1C | 1 |
| ⚠ | 960 0185 708 | Sub trans. | for E3,EU | 1 |
| ⚠ | 960 0185 711 | Sub trans. | for E2 | 1 |
| ⚠ | 960 0185 737 | Sub trans. | for E1,E1H,E1T | 1 |
| ⚠ | 960 0185 724 | Sub trans. | for E1C | 1 |
| | 963 0018 007 | Screw 3x8 CBTS(B) | | 3 |
| | 960 0158 308 | 4P Terminal | | 1 |
| | 963 0074 009 | 8P Terminal | | 1 |
| | 960 0194 702 | 4P pin jack | | 2 |
| | 960 0188 307 | 6P pin jack | | 1 |

## CPU P.W.B. ASS'Y

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| **SEMICONDUCTORS GROUP** | | | |
| IC201 | 963 0084 303 | IC CXP740096-135Q | |
| IC202 | 963 0057 602 | IC TDA7330BD | for E2 |
| IC221 | 963 0080 201 | IC KIC9164AN | |
| IC231 | 960 0179 604 | IC M62446FP | |
| IC241 | 960 0179 701 | IC NJM2068DD | |
| IC251 | 960 0179 701 | IC NJM2068DD | |
| IC261 | 960 0179 701 | IC NJM2068DD | |
| IC271 | 960 0179 701 | IC NJM2068DD | |
| IC281 | 960 0179 701 | IC NJM2068DD | |
| IC291 | 960 0179 701 | IC NJM2068DD | |
| IC301 | 960 0180 004 | IC LC75721E | |
| IC302 | 963 0074 504 | IC BU2090F | |
| RMC301 | 960 0181 100 | Remote sensor NJL64H380A | |
| Q201 | 963 0075 202 | Transistor DTC144EK | |
| Q202 | 963 0045 902 | Transistor 2SC2412K | |
| Q203 | 963 0075 309 | Transistor DTA114ES | |
| Q204,205 | 960 0196 603 | Transistor KTC2874B | |
| Q231 | 963 0075 309 | Transistor DTA114ES | |
| Q232 | 963 0075 503 | Transistor DTC144ES | |
| Q251,252 | 960 0196 807 | FET 2SK117Y | |
| Q291C | 960 0196 807 | FET 2SK117Y | |
| Q291FL,291FR | 960 0196 807 | FET 2SK117Y | |
| Q291SW | 960 0196 807 | FET 2SK117Y | |
| Q294 | 963 0058 203 | Transistor DTA114EK | |
| Q295 | 963 0075 202 | Transistor DTC144EK | |
| Q296 | 963 0058 203 | Transistor DTA114EK | |
| Q297 | 963 0075 202 | Transistor DTC144EK | |
| Q310 | 963 0075 008 | Transistor DTA144EK | |
| Q311 | 963 0075 202 | Transistor DTC144EK | |
| Q312 | 963 0075 008 | Transistor DTA144EK | |
| Q313 | 963 0075 202 | Transistor DTC144EK | |
| Q314 | 963 0075 008 | Transistor DTA144EK | |
| Q315 | 963 0075 202 | Transistor DTC144EK | |
| D201 | 960 0197 000 | Diode KDS160 | |
| D202 | 963 0058 407 | Diode 1N4007 | |
| D203 | 963 0020 309 | Diode 1SS133 | |
| D204,205 | 960 0197 000 | Diode KDS160 | |
| D206 | 963 0020 309 | Diode 1SS133 | for E2 |
| D251,252 | 963 0020 309 | Diode 1SS133 | |
| D261 | 963 0058 407 | Diode 1N4007 | |
| D291-294 | 960 0197 000 | Diode KDS160 | |
| D302-304 | 963 0020 309 | Diode 1SS133 | |
| D305 | 960 0197 000 | Diode KDS160 | |
| D308,309 | 960 0197 000 | Diode KDS160 | |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| ZD201 | 963 0047 502 | Zener diode MTZJ3.3B | |
| ZD271,272 | 960 0222 603 | Zener diode MTZJ7.5A | |
| ZD301 | 960 0095 801 | Zener diode MTZJ6.8B | |
| ZD306,307 | 960 0095 607 | Zener diode MTZJ5.6B | |
| LED301-304 | 960 0197 204 | LED PI5-RD/HL50RDRF4T | |
| LED306-309 | 960 0197 204 | LED PI5-RD/HL50RDRF4T | |
| **RESISTORS GROUP** | | | |
| R202 | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R203,204 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R205 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R206 | 963 9004 232 | Carbon chip 220 kohm 1/16W | |
| R209 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R211 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R212 | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R213-215 | 963 9004 122 | Carbon chip 12 kohm 1/16W | |
| R216 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E3,EU,E2 |
| R217 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E3,EU |
| R218 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E1,E1C,E1H,E1T |
| R218,219 | 963 9004 177 | Carbon chip 18 kohm 1/16W | for E2 |
| R220 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R223,224 | 963 9003 372 | Carbon chip 0 ohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R223,224 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E2 |
| R225 | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | for E2 |
| R226 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R227 | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R228 | 963 9004 368 | Carbon chip 470 kohm 1/16W | |
| R230 | 963 9004 229 | Carbon chip 22 kohm 1/16W | |
| R231,232 | 244 2051 961 | Metal film 100 ohm 1W | |
| R236 | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R237 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R238 | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R241-248 | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R252 | 963 9004 449 | Carbon chip 6.8 kohm 1/16W | |
| R253 | 963 9004 834 | Carbon chip 5.6 kohm 1/16W | |
| R254 | 963 9004 481 | Carbon chip 8.2 kohm 1/16W | |
| R255 | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R256 | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R258 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R259 | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R261L,261R | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R262L,262R | 963 9004 151 | Carbon chip 15 kohm 1/16W | |
| R263L,263R | 963 9004 151 | Carbon chip 15 kohm 1/16W | |
| R264L,264R | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R265L,265R | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R266L,266R | 963 9004 410 | Carbon chip 6.2 kohm 1/16W | |
| R271 | 244 2051 958 | Metal film 220 ohm 1W | |
| R273 | 963 9005 325 | Carbon chip 2.7 kohm 1/16W | |
| R274 | 244 2051 958 | Metal film 220 ohm 1W | |
| R282-284 | 963 9003 385 | Carbon chip 100 ohm 1/16W | |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| R286C | 963 9004 232 | Carbon chip 220 kohm 1/16W | |
| R286FL,286FR | 963 9004 232 | Carbon chip 220 kohm 1/16W | |
| R286SL,286SR | 963 9004 232 | Carbon chip 220 kohm 1/16W | |
| R286SW | 963 9004 232 | Carbon chip 220 kohm 1/16W | |
| R292C | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R292FL,292FR | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R292SL,292SR | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R292SW | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R293C | 963 9004 355 | Carbon chip 47 kohm 1/16W | |
| R293FL,293FR | 963 9004 355 | Carbon chip 47 kohm 1/16W | |
| R293SL,293SR | 963 9004 355 | Carbon chip 47 kohm 1/16W | |
| R293SW | 963 9004 355 | Carbon chip 47 kohm 1/16W | |
| R294C | 963 9004 481 | Carbon chip 8.2 kohm 1/16W | |
| R294FL,294FR | 963 9004 371 | Carbon chip 5.1 kohm 1/16W | |
| R294SW | 963 9005 338 | Carbon chip 16 kohm 1/10W | |
| R295SW | 963 9004 355 | Carbon chip 47 kohm 1/16W | |
| R296C | 963 9005 341 | Carbon chip 13 kohm 1/10W | |
| R296FL,296FR | 963 9004 834 | Carbon chip 5.6 kohm 1/16W | |
| R296SL,296SR | 963 9005 341 | Carbon chip 13 kohm 1/10W | |
| R296SW | 963 9004 122 | Carbon chip 12 kohm 1/16W | |
| R297C | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R297FL,297FR | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R297SL,297SR | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R297SW | 963 9005 008 | Carbon chip 620 ohm 1/16W | |
| R298SW | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R299C | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R299FL,299FR | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R299SL,299SR | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R299SW | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R301-304 | 963 9004 436 | Carbon chip 680 ohm 1/16W | |
| R306-309 | 963 9004 436 | Carbon chip 680 ohm 1/16W | |
| R315 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R332 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R381 | 963 9004 465 | Carbon chip 75 ohm 1/16W | |
| R382,383 | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R384,385 | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| RG01 | 963 9004 397 | Carbon chip 56 kohm 1/16W | |
| RP01-38 | 963 9004 397 | Carbon chip 56 kohm 1/16W | |
| **CAPACITORS GROUP** | | | |
| BC201 | 963 0061 504 | Electric double layer 8200uF/5.5V | |
| C201 | 963 9004 546 | Ceramic 0.01uF/16V | |
| C202 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C203 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C204 | | Electrolytic 4.7uF/50V | |
| C205 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C206 | | Electrolytic 47uF/10V | for E2 |
| C207 | 963 9004 546 | Ceramic 0.01uF/16V | for E2 |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| C208 | 963 9005 354 | Ceramic chip 270pF/50V | for E2 |
| C209 | | Electrolytic 10uF/35V | for E2 |
| C210 | 963 9004 698 | Ceramic chip 0.01uF/50V | for E2 |
| C211,212 | 963 9004 614 | Ceramic chip 27pF/50V | for E2 |
| C213 | | Electrolytic 0.1uF/50V | |
| C214 | | Electrolytic 1uF/50V | |
| C219-226 | 963 9004 753 | Ceramic chip 0.047uF/50V | |
| C231 | | Electrolytic 47uF/25V | |
| C233 | | Electrolytic 47uF/25V | |
| C236 | | Electrolytic 47uF/25V | |
| C238 | | Electrolytic 47uF/25V | |
| C241-246 | 963 9004 753 | Ceramic chip 0.047uF/50V | |
| C251 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C252 | 963 9004 643 | Ceramic chip 47pF/50V | |
| C253 | | Electrolytic 10uF/35V | |
| C261-268 | 963 9004 520 | Ceramic 100pF/50V | |
| C261L,261R | 963 9004 575 | Ceramic chip 100pF/50V | |
| C262L,262R | 963 9004 627 | Ceramic chip 33pF/50V | |
| C263L,263R | | Electrolytic 10uF/35V | |
| C271 | | Electrolytic 47uF/10V | |
| C272 | | Electrolytic 1uF/50V | |
| C273 | | Electrolytic 47uF/10V | |
| C274 | | Electrolytic 0.33uF/50V | |
| C275 | 963 9005 367 | Ceramic chip 0.015uF/50V | |
| C276,277 | | Electrolytic 3.3uF/50V | |
| C278 | | Electrolytic 0.33uF/50V | |
| C279 | 963 9005 367 | Ceramic chip 0.015uF/50V | |
| C280,281 | 963 9005 370 | Ceramic chip 8200pF/50V | |
| C282 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C285BL,285BR | | Electrolytic 4.7uF/50V | |
| C285C | | Electrolytic 4.7uF/50V | |
| C285FL,285FR | | Electrolytic 4.7uF/50V | |
| C285SL,285SR | | Electrolytic 4.7uF/50V | |
| C285SW | | Electrolytic 4.7uF/50V | |
| C292C | | Electrolytic 4.7uF/50V | |
| C292FL,292FR | | Electrolytic 10uF/35V | |
| C292SL,292SR | | Electrolytic 10uF/35V | |
| C292SW | | Electrolytic 4.7uF/50V | |
| C294C | 963 9005 383 | Ceramic chip 2700pF/50V | |
| C294FL,294FR | 963 9005 396 | Ceramic chip 4700pF/50V | |
| C295C | 963 9004 575 | Ceramic chip 100pF/50V | |
| C295FL,295FR | 963 9004 672 | Ceramic chip 680pF/50V | |
| C296C | 963 9004 630 | Ceramic chip 39pF/50V | |
| C296FL,296FR | 963 9005 422 | Ceramic chip 82pF/50V | |
| C296SL,296SR | 963 9004 630 | Ceramic chip 39pF/50V | |
| C296SW | 963 9004 575 | Ceramic chip 100pF/50V | |
| C297SW | | Electrolytic 4.7uF/50V | |
| C301 | | Electrolytic 10uF/50V | |
| C302 | 963 9004 753 | Ceramic chip 0.047uF/50V | |
| C303 | | Electrolytic 47uF/10V | |
| C304 | 963 9004 737 | Ceramic chip 0.022uF/25V | |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| C305 | | Electrolytic 47uF/16V | |
| C306 | 963 9004 766 | Mylar film 0.1uF/100V | |
| C307 | | Electrolytic 1uF/50V | |
| C308,309 | 963 0021 900 | Mylar film 0.047uF/100V | |
| C310 | | Electrolytic 1uF/50V | |
| C311 | 963 9005 406 | Ceramic chip 30pF/50V | |
| C312 | | Electrolytic 47uF/16V | |
| C313 | 963 9005 419 | Mylar film 0.047uF/63V | |
| C316,317 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C321 | 963 9004 685 | Ceramic chip 1000pF/50V | |
| C322 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C324 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C333 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C381 | | Electrolytic 47uF/10V | |
| C382,383 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C384,385 | | Electrolytic 1uF/50V | |

| OTHER PARTS GROUP | | | | Q'ty |
|---|---|---|---|---|
| BD201,202 | 963 0053 800 | Beads inductor | | 2 |
| CN105 | 963 0089 405 | 2P connector cord | for E2 | 1 |
| CN302 | 963 0087 300 | 3P connector cord | | 1 |
| CN303 | 963 0090 407 | 6P connector cord | | 1 |
| CP201 | 963 0046 804 | 8P connector base | | 1 |
| CP202 | 963 0075 804 | 4P connector base | | 1 |
| CP203 | 963 0046 804 | 8P connector base | | 1 |
| CP301A | 963 0075 901 | 15P FPC base | | 1 |
| CP301B | 960 0217 524 | 15P FPC base | | 1 |
| CP303 | 963 0049 102 | 3P connector base | | 1 |
| CP401 | 963 0047 007 | 10P connector base | | 1 |
| CP402 | 963 0049 209 | 15P connector base | | 1 |
| CP551 | 960 0123 003 | 14P connector base | | 1 |
| CP552 | 963 0049 306 | 17P connector base | | 1 |
| CP601 | 963 0047 104 | 11P connector base | | 1 |
| CP701 | 960 0116 803 | 12P connector base | | 1 |
| CP702 | 963 0047 104 | 11P connector base | | 1 |
| CP801,802 | 963 0049 306 | 17P connector base | | 2 |
| CP803 | 963 0046 804 | 8P connector base | | 1 |
| FL301 | 960 0180 509 | FLT 16-ST-42GNK | | 1 |
| G301 | — | 1P lug wire L60 BK | | 1 |
| JK301 | 963 0067 508 | 3P pin jack | | 1 |
| L301 | 960 0128 008 | Inductor 100uH | | 1 |
| L302 | 960 0010 307 | Inductor 10uH | | 1 |
| SW301B,301C | 963 0045 708 | Tact switch | | 2 |
| SW302A-302C | 963 0045 708 | Tact switch | | 3 |
| SW303A-303C | 963 0045 708 | Tact switch | | 3 |

**Note :** The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A. & Canada model EU: U.S.A. model (AVR-682)
E2: Europe model E1: Asia model
E1C: China model E1H: Hong Kong model
E1T: Taiwan R.O.C. model

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| SW304B,304C | 963 0045 708 | Tact switch | | 2 |
| SW305B,305C | 963 0045 708 | Tact switch | | 2 |
| SW306B,306C | 963 0045 708 | Tact switch | | 2 |
| SW307B,307C | 963 0045 708 | Tact switch | | 2 |
| SW308B,308C | 963 0045 708 | Tact switch | | 2 |
| SW309B,309C | 963 0045 708 | Tact switch | | 2 |
| SW310B,310C | 963 0045 708 | Tact switch | | 2 |
| SW311B,311C | 963 0045 708 | Tact switch | | 2 |
| VEC301 | 960 0181 207 | Encoder EC16B2420431 | | 1 |
| X201 | 960 0181 003 | Ceramic resonator CST12.0MTW | | 1 |
| X202 | 960 0091 818 | Crystal 4.332MHz | for E2 | 1 |
| | 960 0184 408 | FLT holder | | 1 |
| ⚠ | 960 0143 203 | AC outlet | for E2 | 1 |
| | — | Wire clamp | for E3,EU,E1,E1C,E1H,E1T | 2 |

## CNT P.W.B. ASS'Y

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| **SEMICONDUCTORS GROUP** | | | |
| IC401 | 963 0043 700 | IC LC72131 | |
| IC402 | 963 0043 904 | IC LA1266 | |
| IC403 | 963 0044 000 | IC LA3401 | |
| IC601 | 960 0180 101 | IC LA7952 | |
| IC602 | 963 0074 902 | IC NJM7812FA | |
| IC651,652 | 960 0180 101 | IC LA7952 | for E3,EU,E1,E1C,E1H,E1T |
| Q401 | 963 0058 300 | Transistor KTC3880S | |
| Q402 | 963 0075 105 | Transistor DTC114EK | |
| Q403,404 | 963 0058 203 | Transistor DTA114EK | |
| Q405,406 | 960 0196 603 | Transistor KTC2874B | |
| Q407 | 963 0024 208 | Transistor DTC114YK | |
| Q408 | 963 0058 203 | Transistor DTA114EK | |
| Q409 | 963 0058 300 | Transistor KTC3880S | for E2 |
| Q551 | 960 0196 700 | Transistor KTC3200BL | |
| Q552 | 960 0196 302 | Transistor KTA1268BL | |
| Q553-555 | 963 0075 309 | Transistor DTA114ES | |
| Q601,602 | 960 0096 800 | Transistor 2SC3199Y | |
| Q603,604 | 960 0196 904 | Transistor DTC114YS | |
| Q605,606 | 963 0075 406 | Transistor DTC114TS | |
| Q651,652 | 960 0096 800 | Transistor 2SC3199Y | for E3,EU,E1,E1C,E1H,E1T |
| Q653,654 | 960 0196 904 | Transistor DTC114YS | for E3,EU,E1,E1C,E1H,E1T |
| Q655,656 | 960 0096 800 | Transistor 2SC3199Y | for E3,EU,E1,E1C,E1H,E1T |
| Q657,658 | 960 0196 904 | Transistor DTC114YS | for E3,EU,E1,E1C,E1H,E1T |
| D403 | 960 0197 000 | Diode KDS160 | |
| D404 | 963 0020 309 | Diode 1SS133 | |
| D405,406 | 960 0197 000 | Diode KDS160 | |
| D551-561 | 963 0020 309 | Diode 1SS133 | |
| D562 | 963 0058 407 | Diode 1N4007 | |
| D564 | 960 0095 607 | Zener diode MTZJ5.6B | |
| D565 | 963 0020 309 | Diode 1SS133 | |
| D601,602 | 963 0020 309 | Diode 1SS133 | |
| D651,652 | 963 0020 309 | Diode 1SS133 | for E3,EU,E1,E1C,E1H,E1T |
| ZD401 | 960 0095 500 | Zener diode MTZJ5.1B | |
| **RESISTORS GROUP** | | | |
| R401 | 963 9004 821 | Carbon chip 10 ohm 1/16W | |
| R403 | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R404 | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R405 | 960 9003 807 | Metal film 100 ohm 1/4W | |
| R406 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R407 | 963 9004 339 | Carbon chip 470 ohm 1/16W | for E3,EU |
| R407 | 963 9005 008 | Carbon chip 620 ohm 1/16W | for E2,E1,E1C,E1H,E1T |
| R408 | 963 9004 119 | Carbon chip 1.2 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| R408 | 963 9004 436 | Carbon chip 680 ohm 1/16W | for E2 |
| R409 | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R411 | 963 9005 011 | Carbon chip 68 kohm 1/16W | |
| R412 | 963 9004 834 | Carbon chip 5.6 kohm 1/16W | |
| R413 | 960 9006 503 | Metal film 220 ohm 1/4W | |
| R414 | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R415 | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R416 | 963 9005 024 | Metal film 680 ohm 1/4W | |
| R417 | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R418 | 963 9004 274 | Carbon chip 33 kohm 1/16W | |
| R420 | 963 9004 847 | Carbon chip 3.3 kohm 1/16W | |
| R426,427 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R428 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E2 |
| R428 | 963 9004 847 | Carbon chip 3.3 kohm 1/16W | for E3,EU |
| R428 | 963 9004 449 | Carbon chip 6.8 kohm 1/16W | for E1,E1C,E1H,E1T |
| R429 | 963 9004 850 | Carbon chip 82 ohm 1/16W | |
| R430 | 960 9003 807 | Metal film 100 ohm 1/4W | |
| R431 | 963 9004 371 | Carbon chip 5.1 kohm 1/16W | |
| R432 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R434 | 960 9003 807 | Metal film 100 ohm 1/4W | |
| R435 | 963 9004 847 | Carbon chip 3.3 kohm 1/16W | |
| R437 | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R438,439 | 963 9004 083 | Carbon chip 100 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R438,439 | 963 9004 164 | Carbon chip 150 kohm 1/16W | for E2 |
| R440,441 | 963 9004 863 | Carbon chip 120 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R440,441 | 963 9004 232 | Carbon chip 220 kohm 1/16W | for E2 |
| R442,443 | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | for E2 |
| R442,443 | 963 9004 847 | Carbon chip 3.3 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R444,445 | 963 9004 847 | Carbon chip 3.3 kohm 1/16W | for E2 |
| R444,445 | 963 9004 481 | Carbon chip 8.2 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R448 | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R449 | 963 9005 037 | Carbon chip 3.9 kohm 1/16W | for E2 |
| R450 | 963 9003 398 | Carbon chip 1 kohm 1/16W | for E2 |
| R455 | 963 9004 876 | Carbon chip 330 ohm 1/16W | |
| R456 | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R458,459 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R470 | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R471VT | 963 9004 203 | Carbon chip 220 ohm 1/16W | |
| R472 | 963 9003 385 | Carbon chip 100 ohm 1/16W | for E2 |
| R474 | 963 9004 889 | Carbon chip 180 ohm 1/16W | for E2 |
| R475 | 963 9004 122 | Carbon chip 12 kohm 1/16W | |
| R476 | 963 9004 397 | Carbon chip 56 kohm 1/16W | |
| R478 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R479 | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R481C | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R481FL,481FR | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R481SL,481SR | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R481SW | 963 9004 245 | Carbon chip 2.2 Mohm 1/16W | |
| R482C | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R482FL,482FR | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R482SL,482SR | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R482SW | 963 9003 385 | Carbon chip 100 ohm 1/16W | |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| R559 | 244 2055 996 | Metal film 1.2 kohm 1W | |
| R565 | 244 2055 996 | Metal film 1.2 kohm 1W | |
| R570 | 244 2055 996 | Metal film 1.2 kohm 1W | |
| R651-656 | 963 9004 465 | Carbon chip 75 ohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R657 | 963 9004 423 | Carbon chip 68 ohm 1/10W | for E3,EU,E1,E1C,E1H,E1T |
| R658 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R660 | 963 9004 423 | Carbon chip 68 ohm 1/10W | for E3,EU,E1,E1C,E1H,E1T |
| R661 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R663 | 963 9004 423 | Carbon chip 68 ohm 1/10W | for E3,EU,E1,E1C,E1H,E1T |
| R664 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R666 | 963 9004 423 | Carbon chip 68 ohm 1/10W | for E3,EU,E1,E1C,E1H,E1T |
| R667 | 963 9004 070 | Carbon chip 10 kohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R671,672 | 963 9004 465 | Carbon chip 75 ohm 1/16W | for E3,EU,E1,E1C,E1H,E1T |
| R901,902 | 960 9009 270 | Metal film 470 ohm 2W | |
| VR401 | 960 0096 606 | Semi fixed resistor 20 kohm | |
| VR402 | 963 0056 205 | Semi fixed resistor 50 kohm | for E3,EU,E1,E1C,E1H,E1T |
| VR402 | 960 0096 402 | Semi fixed resistor 100 kohm | for E2 |
| VR403 | 963 0052 005 | Semi fixed resistor 200 kohm | |

**CAPACITORS GROUP**

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| C401,402 | 963 9004 685 | Ceramic chip 1000pF/50V | |
| C403 | 963 9004 737 | Ceramic chip 0.022uF/25V | |
| C404 | 963 9004 892 | Ceramic 2pF/50V | |
| C405 | 963 9004 737 | Ceramic chip 0.022uF/25V | |
| C406 | 963 9005 435 | Ceramic chip 18pF/50V | |
| C408 | 960 9004 709 | Ceramic 6pF/50V | |
| C409 | 963 9004 520 | Ceramic 100pF/50V | |
| C410 | 963 9004 915 | Ceramic 470pF/50V | |
| C411 | 963 9004 685 | Ceramic chip 1000pF/50V | |
| C412 | 963 9004 737 | Ceramic chip 0.022uF/25V | |
| C413 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C414 | | Electrolytic 2.2uF/50V | |
| C415 | | Electrolytic 47uF/10V | |
| C416 | | Electrolytic 10uF/35V | |
| C417 | | Electrolytic 100uF/16V | |
| C418 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C419 | | Electrolytic 10uF/35V | |
| C420,421 | 963 9004 591 | Ceramic chip 22pF/50V | |
| C422 | 963 9004 656 | Ceramic chip 470pF/50V | |
| C423,424 | 963 9004 737 | Ceramic chip 0.022uF/25V | |
| C425 | | Electrolytic 4.7uF/50V | |
| C426 | | Electrolytic 3.3uF/50V | |
| C427 | | Electrolytic 4.7uF/50V | |
| C428 | 963 9004 737 | Ceramic chip 0.022uF/25V | |
| C430 | 963 0021 900 | Mylar film 0.047uF/200V | |
| C431 | 963 9004 627 | Ceramic chip 33pF/50V | |
| C432 | | Electrolytic 47uF/10V | |
| C433 | 963 9004 737 | Ceramic chip 0.022uF/25V | |
| C434 | | Electrolytic 1uF/50V | for E3,EU |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| C434 | | Electrolytic 0.33uF/50V | for E2,E1,E1C,E1H,E1T |
| C435,436 | 963 9004 737 | Ceramic chip 0.022uF/25V | |
| C437 | | Electrolytic 47uF/10V | |
| C438 | | Electrolytic 1uF/50V | |
| C439 | | Electrolytic 0.22uF/50V | |
| C440,441 | | Electrolytic 1uF/50V | |
| C442 | | Electrolytic 2.2uF/50V | |
| C443 | | Electrolytic 10uF/35V | |
| C444 | | Electrolytic 4.7uF/50V | |
| C445 | | Electrolytic 10uF/35V | |
| C446,447 | 963 9004 931 | Ceramic 180pF/50V | for E1,E1C,E1H,E1T |
| C446,447 | 963 9005 448 | Ceramic 330pF/50V | for E2 |
| C446,447 | 963 9005 053 | Ceramic 270pF/50V | for E3,EU |
| C448,449 | 963 9004 960 | Ceramic 470pF/50V | for E3,EU |
| C448,449 | 963 9004 960 | Ceramic 470pF/50V | for E1,E1C,E1H,E1T |
| C450,451 | | Electrolytic 10uF/35V | |
| C453 | 963 9004 614 | Ceramic chip 27pF/50V | |
| C456 | 963 9004 672 | Ceramic chip 680pF/50V | |
| C461 | 963 9004 591 | Ceramic chip 22pF/50V | |
| C462 | 963 9004 656 | Ceramic chip 470pF/50V | for E2 |
| C463 | 963 9004 782 | Mylar film 0.056uF/200V | |
| C464 | 963 9004 973 | Ceramic 3pF/50V | |
| C471VT | | Electrolytic 1uF/50V | |
| C472VT | 963 9004 753 | Ceramic chip 0.047uF/50V | |
| C481C | 963 9004 575 | Ceramic chip 100pF/50V | |
| C481FL,481FR | 963 9004 575 | Ceramic chip 100pF/50V | |
| C481SL,481SR | 963 9004 575 | Ceramic chip 100pF/50V | |
| C481SW | 963 9004 575 | Ceramic chip 100pF/50V | |
| C551 | | Electrolytic 2.2uF/50V | |
| C551M | | Electrolytic 100uF/35V | |
| C551S | 963 9004 562 | Ceramic 0.047uF/50V | |
| C552-554 | | Electrolytic 0.1uF/50V | |
| C555,556 | 963 9004 546 | Ceramic 0.01uF/16V | |
| C557 | | Electrolytic 10uF/35V | |
| C601 | 963 9004 575 | Ceramic chip 100pF/50V | |
| C602-604 | | Electrolytic 47uF/10V | |
| C605,606 | | Electrolytic 470uF/6.3V | |
| C607 | | Electrolytic 100uF/16V | |
| C608 | 963 9004 575 | Ceramic chip 100pF/50V | for E1,E1H,E1T |
| C611 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C612,613 | 963 9004 753 | Ceramic chip 0.047uF/50V | |
| C651-653 | | Electrolytic 47uF/10V | for E3,EU,E1,E1C,E1H,E1T |
| C654,655 | | Electrolytic 470uF/10V | for E3,EU,E1,E1C,E1H,E1T |
| C656-658 | | Electrolytic 47uF/10V | for E3,EU,E1,E1C,E1H,E1T |
| C659,660 | | Electrolytic 470uF/10V | for E3,EU,E1,E1C,E1H,E1T |
| C661 | | Electrolytic 100uF/16V | for E3,EU,E1,E1C,E1H,E1T |
| C662,663 | 963 9004 753 | Ceramic chip 0.047uF/50V | for E3,EU,E1,E1C,E1H,E1T |
| C664,665 | | Electrolytic 1uF/50V | for E3,EU,E1,E1C,E1H,E1T |
| C901,902 | 963 9004 533 | Ceramic 0.001uF/50V | |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| C903 | | Electrolytic 1uF/50V | |
| C904 | 960 9003 108 | Ceramic 0.022uF/25V | |

**OTHER PARTS GROUP**

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| CF401 | 960 0187 104 | FM ceramic filter SFE10.7MA8 | for E3,EU,E1,E1C,E1H,E1T | 1 |
| CF401 | 960 0177 509 | FM ceramic filter SFE10.7MS3 | for E2 | 1 |
| CF402 | 960 0187 104 | FM ceramic filter SFE10.7MA8 | for E3,EU | 1 |
| CF402 | 960 0177 509 | FM ceramic filter SFE10.7MS3 | for E2,E1,E1C,E1H,E1T | 1 |
| CF403 | 960 0187 609 | Ceramic resonator BFU450C | | 1 |
| CN392 | 963 0086 000 | 2P connector cord | for E3,EU | 1 |
| CN401 | 963 0046 503 | 10P connector base | | 1 |
| CN402 | 963 0049 607 | 15P connector base | | 1 |
| CN551 | 960 0124 604 | 14P connector base | | 1 |
| CN552 | 963 0049 704 | 17P connector base | | 1 |
| CN553 | 963 0049 801 | 20P connector base | | 1 |
| CN554 | 963 0090 708 | 14P connector cord | | 1 |
| CN601 | 963 0046 600 | 11P connector base | | 1 |
| CN651 | 963 0090 805 | 4P connector cord | for E3,EU,E1,E1C,E1H,E1T | 1 |
| CN901 | 963 0090 902 | 3P connector cord | | 1 |
| CN931 | 963 0089 502 | 2P connector cord | for E2,E1,E1C,E1H,E1T | 1 |
| CP302 | 963 0049 908 | 3P connector base | | 1 |
| CP392 | 963 0048 909 | 3P connector base | for E3,EU | 1 |
| CP651 | 963 0050 104 | 4P connector base | for E3,EU,E1,E1C,E1H,E1T | 1 |
| FE401 | 960 0187 706 | FM tuner FTE4-401TB | | 1 |
| G401 | — | 1P lug wire L60 BK | | 1 |
| G901 | — | 1P lug wire L80 BK | | 1 |
| JK901 | 960 0187 502 | Headphone jack | for E3,EU,E2 | 1 |
| JK901 | 960 0176 306 | Headphone jack | for E1,E1C,E1H,E1T | 1 |
| L401 | 963 0052 102 | Inductor 1uH | | 1 |
| L402 | 960 0010 307 | Inductor 10uH | | 1 |
| L403 | 963 0056 409 | MW IF coil RBW07VB | | 1 |
| SW391-397 | 963 0045 708 | Tact switch | | 7 |
| SW601 | 963 0056 700 | Slide switch | for E1,E1H,E1T | 1 |
| SW901 | 960 0176 209 | Push switch | for E3,EU | 1 |
| SW901 | 963 0056 603 | Push switch | for E2,E1,E1C,E1H,E1T | 1 |
| T401 | 960 0007 323 | MW IF coil PCFMAF-270 | | 1 |
| T402 | 960 0007 349 | FM IF coil M292MEA-K5611FKG | | 1 |
| T403 | 960 0007 352 | FM IF coil 292MEA-K5612X | | 1 |
| T404,405 | 960 0071 207 | MPX filter 253AGG-K5001-KR | for E2 | 2 |
| T406 | 960 0037 607 | Antibirdie filter T126SE-K5256 | for E2 | 1 |
| X401 | 960 0187 405 | Crystal 7.2MHz | | 1 |
| X402 | 963 0043 302 | Ceramic resonator CSB456F11 | | 1 |

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| | 960 0184 000 | Bracket | | 2 |
| | 963 0054 003 | Shield cover | | 1 |
| | 963 0088 406 | Earth plate | | 1 |
| | 963 0052 403 | 3P Terminal | | 1 |
| | 960 0188 307 | 6P pin jack | | 1 |
| | 960 0194 508 | 1P pin jack | | 1 |
| | 960 0194 605 | 2P pin jack | | 1 |
| | 960 0188 404 | 3P pin jack | | 1 |
| | 960 0181 304 | 3P jack | for E3,EU,E1,E1C,E1H,E1T | 1 |
| | 960 0181 401 | DIN jack | for E3,EU,E1,E1C,E1H,E1T | 1 |

## PRE-AMP P.W.B. ASS'Y

| Ref. No. | Part No. | Part Name | Remarks | |
|---|---|---|---|---|
| **SEMICONDUCTORS GROUP** | | | | |
| Q501C | 960 0196 603 | Transistor KTC2874B | | |
| Q501FL,501FR | 960 0196 603 | Transistor KTC2874B | | |
| Q501SL,501SR | 960 0196 603 | Transistor KTC2874B | | |
| Q502C | 960 0196 205 | Transistor KSA992F | | |
| Q502FL,502FR | 960 0196 205 | Transistor KSA992F | | |
| Q502SL,502SR | 960 0196 205 | Transistor KSA992F | | |
| Q503C | 960 0196 205 | Transistor KSA992F | | |
| Q503FL,503FR | 960 0196 205 | Transistor KSA992F | | |
| Q503SL,503SR | 960 0196 205 | Transistor KSA992F | | |
| Q504C | 960 0196 506 | Transistor KSC1845F | | |
| Q504FL,504FR | 960 0196 506 | Transistor KSC1845F | | |
| Q504SL,504SR | 960 0196 506 | Transistor KSC1845F | | |
| **RESISTORS GROUP** | | | | |
| R509C | 960 9005 902 | Metal film 1.2 kohm 1/4W | | |
| R509FL,509FR | 960 9005 902 | Metal film 1.2 kohm 1/4W | | |
| R509SL,509SR | 960 9005 902 | Metal film 1.2 kohm 1/4W | | |
| R511C | 960 9004 301 | Metal film 47 ohm 1/4W | | |
| R511FL,511FR | 960 9004 301 | Metal film 47 ohm 1/4W | | |
| R511SL,511SR | 960 9004 301 | Metal film 47 ohm 1/4W | | |
| **CAPACITORS GROUP** | | | | |
| C501C | | Electrolytic 22uF/16V | | |
| C501FL,501FR | | Electrolytic 22uF/16V | | |
| C501M | | Electrolytic 10uF/35V | | |
| C501SL,501SR | | Electrolytic 22uF/16V | | |
| C502C | | Electrolytic 10uF/35V | | |
| C502FL,502FR | | Electrolytic 10uF/35V | | |
| C502SL,502SR | | Electrolytic 10uF/35V | | |
| C503C | 960 9003 165 | Ceramic 220pF/500V | | |
| C503FL,503FR | 960 9003 165 | Ceramic 220pF/500V | | |
| C503SL,503SR | 960 9003 165 | Ceramic 220pF/500V | | |
| C504C | 963 9003 178 | Ceramic 220pF/50V | | |
| C504FL,504FR | 963 9003 178 | Ceramic 220pF/50V | | |
| C504SL,504SR | 963 9003 178 | Ceramic 220pF/50V | | |
| C505C | 963 9003 181 | Ceramic 33pF/500V | | |
| C505FL,505FR | 963 9003 181 | Ceramic 33pF/500V | | |
| C505SL,505SR | 963 9003 181 | Ceramic 33pF/500V | | |
| C506C | | Electrolytic 100uF/10V | | |
| C506FL,506FR | | Electrolytic 100uF/10V | | |
| C506SL,506SR | | Electrolytic 100uF/10V | | |
| C507C | 963 9003 194 | Mylar film 0.0022uF/100V | | |
| C507FL,507FR | 963 9003 194 | Mylar film 0.0022uF/100V | | |
| C507SL,507SR | 963 9003 194 | Mylar film 0.0022uF/100V | | |
| **OTHER PARTS GROUP** | | | | Q'ty |
| CN501 | 963 0046 406 | 9P connector base | | 1 |
| CN502-504 | 963 0050 201 | 5P connector base | | 3 |
| CN505 | 963 0050 308 | 6P connector base | | 1 |
| CP554 | 963 0050 405 | 14P connector base | | 1 |
| | 960 0184 000 | Bracket | | 2 |

## DSP P.W.B. ASS'Y

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| **SEMICONDUCTORS GROUP** | | | |
| IC802 | 269 0186 002 | Optical connector GP1FA502RZ | |
| IC803 | 963 0073 903 | IC 74VHCU04 | |
| IC805,806 | 963 0043 807 | IC BA4510F | |
| IC807 | 963 0073 709 | IC M27W201 | |
| IC807S | 963 0025 508 | IC IC socket | |
| IC808,809 | 963 0074 407 | IC MM74LCX574WMX | |
| IC810 | 960 0195 507 | IC LC89055W(ES4) | |
| IC811 | 963 0074 805 | IC RC1117S33ST | |
| IC812 | 963 0079 208 | IC CS49326-CL | |
| IC813 | 963 0074 601 | IC AK4527B-VQ | |
| IC814-816 | 963 0024 004 | IC NJM2068M | |
| IC817 | 269 0189 009 | Optical connector GP1FA502TZ | |
| IC818,819 | 963 0074 203 | IC MM74LCX244WMX | |
| IC820 | 963 0074 708 | IC RC1117S25T | |
| IC822 | 960 0195 109 | IC SN74LV00APW | |
| IC828 | 963 0074 300 | IC MM74HCT244WMX | |
| IC829 | 960 0196 001 | IC NJM7805FA | |
| IC830 | 963 0074 300 | IC MM74HCT244WMX | |
| IC831 | 960 0195 303 | IC SN74LV4040APWR | |
| IC832 | 963 0074 106 | IC MM74HC151MX | |
| | | | |
| Q804C | 960 0196 603 | Transistor KTC2874B | |
| Q804FL,804FR | 960 0196 603 | Transistor KTC2874B | |
| Q804SL,804SR | 960 0196 603 | Transistor KTC2874B | |
| Q804SW | 960 0196 603 | Transistor KTC2874B | |
| Q805 | 963 0075 105 | Transistor DTC114EK | |
| Q806 | 963 0058 203 | Transistor DTA114EK | |
| Q807,808 | 963 0075 105 | Transistor DTC114EK | |
| | | | |
| D801 | 960 0197 000 | Diode KDS160 | |
| D806,807 | 960 0197 000 | Diode KDS160 | |
| **RESISTORS GROUP** | | | |
| R801 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R803 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R804,805 | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R808 | 963 9004 274 | Carbon chip 33 kohm 1/16W | |
| R817-825 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R830 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R831 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R834,835 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R836 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R838 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R839 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R841 | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R842 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R845R | 963 9004 355 | Carbon chip 47 kohm 1/16W | |
| R848 | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| R850 | 963 9004 465 | Carbon chip 75 ohm 1/16W | |
| R854 | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R854L | 963 9004 355 | Carbon chip 47 kohm 1/16W | |
| R855 | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R856 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R859L,859R | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R860L,860R | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R861 | 963 9004 326 | Carbon chip 47 ohm 1/16W | |
| R861L,861R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R862L,862R | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R863L,863R | 963 9004 339 | Carbon chip 470 ohm 1/16W | |
| R864C | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R864FL,864FR | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R864SL,864SR | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R864SW | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R866C | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R866FL,866FR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R866SL,866SR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R866SW | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R867C | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R867FL,867FR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R867SL,867SR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R867SW | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R868C | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R868FL,868FR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R868SL,868SR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R868SW | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R869C | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R869FL,869FR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R869SL,869SR | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R869SW | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R870C | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R870FL,870FR | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R870SL,870SR | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R870SW | 963 9003 398 | Carbon chip 1 kohm 1/16W | |
| R871C | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R871FL,871FR | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R871SL,871SR | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R871SW | 963 9004 083 | Carbon chip 100 kohm 1/16W | |
| R872C | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R872FL,872FR | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R872SL,872SR | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R872SW | 963 9004 216 | Carbon chip 2.2 kohm 1/16W | |
| R880,881 | 963 9004 326 | Carbon chip 47 ohm 1/16W | |
| | | | |
| R911 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R913 | 963 9004 096 | Carbon chip 1 Mohm 1/16W | |
| R922 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R923 | 963 9004 410 | Carbon chip 6.2 kohm 1/16W | |
| R927 | 963 9004 465 | Carbon chip 75 ohm 1/16W | |
| R928 | 963 9004 371 | Carbon chip 5.1 kohm 1/16W | |
| R929 | 963 9004 481 | Carbon chip 8.2 kohm 1/16W | |
| R930 | 963 9004 261 | Carbon chip 3 kohm 1/16W | |
| R931 | 963 9004 410 | Carbon chip 6.2 kohm 1/16W | |
| R931L,931R | 963 9004 177 | Carbon chip 18 kohm 1/16W | |

| Ref. No. | Part No. | Part Name | Remarks |
|---|---|---|---|
| R932 | 963 9004 342 | Carbon chip 4.7 kohm 1/16W | |
| R938 | 963 9004 368 | Carbon chip 470 kohm 1/16W | |
| R940 | 963 9004 070 | Carbon chip 10 kohm 1/16W | |
| R949 | 963 9004 326 | Carbon chip 47 ohm 1/16W | |
| R952,953 | 963 9003 385 | Carbon chip 100 ohm 1/16W | |
| **CAPACITORS GROUP** | | | |
| C801 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C802,803 | 963 9004 591 | Ceramic chip 22pF/50V | |
| C805 | 963 9004 591 | Ceramic chip 22pF/50V | |
| C808 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C809 | | Electrolytic 47uF/10V | |
| C810 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C811 | | Electrolytic 47uF/10V | |
| C812 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C813 | | Electrolytic 47uF/10V | |
| C814 | 963 9004 591 | Ceramic chip 22pF/50V | |
| C815 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C816 | 963 9004 591 | Ceramic chip 22pF/50V | |
| C817 | 963 9004 711 | Electrolytic 0.1uF/50V | |
| C818 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C819,820 | | Electrolytic 47uF/10V | |
| C821 | | Electrolytic 100uF/10V | |
| C822,823 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C824 | | Electrolytic 47uF/10V | |
| C825 | | Electrolytic 1uF/50V | |
| C826 | | Electrolytic 10uF/35V | |
| C827 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C828 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C829 | | Electrolytic 10uF/35V | |
| C830-832 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C833 | 963 9004 656 | Ceramic chip 470pF/50V | |
| C834 | | Electrolytic 10uF/35V | |
| C835 | | Electrolytic 1uF/50V | |
| C836 | | Electrolytic 220uF/6.3V | |
| C837,838 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C839 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C840 | | Electrolytic 2.2uF/50V | |
| C841 | | Electrolytic 47uF/10V | |
| C842 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C844 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C845 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C849 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C851 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C854,855 | | Electrolytic 100uF/25V | |
| C856-863 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C864L,864R | | Electrolytic 10uF/35V | |
| C865L,865R | 963 9004 575 | Ceramic chip 100pF/50V | |
| C866 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C869L,869R | 963 9004 575 | Ceramic chip 100pF/50V | |
| C871L,871R | 963 9004 685 | Ceramic chip 1000pF/50V | |
| C873C | 963 9004 672 | Ceramic chip 680pF/50V | |
| C873FL,873FR | 963 9004 672 | Ceramic chip 680pF/50V | |
| C873SL,873SR | 963 9004 672 | Ceramic chip 680pF/50V | |
| C873SW | 963 9004 672 | Ceramic chip 680pF/50V | |
| C874C | 963 9004 672 | Ceramic chip 680pF/50V | |
| C874FL,874FR | 963 9004 672 | Ceramic chip 680pF/50V | |
| C874SL,874SR | 963 9004 672 | Ceramic chip 680pF/50V | |
| C874SW | 963 9004 672 | Ceramic chip 680pF/50V | |
| C875C | | Electrolytic 10uF/35V | |
| C875FL,875FR | | Electrolytic 10uF/35V | |
| C875SL,875SR | | Electrolytic 10uF/35V | |
| C875SW | | Electrolytic 10uF/35V | |
| C876C | 963 9004 740 | Ceramic chip 3300pF/50V | |
| C876FL,876FR | 963 9004 740 | Ceramic chip 3300pF/50V | |
| C876SL,876SR | 963 9004 740 | Ceramic chip 3300pF/50V | |
| C876SW | 963 9004 740 | Ceramic chip 3300pF/50V | |
| C880C | | Electrolytic 10uF/35V | |
| C880FL,880FR | | Electrolytic 10uF/35V | |
| C880SL,880SR | | Electrolytic 10uF/35V | |
| C880SW | | Electrolytic 10uF/35V | |
| C908,909 | 963 9004 614 | Ceramic chip 27pF/50V | |
| C916 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C917 | | Electrolytic 10uF/35V | |
| C918 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C919 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C920 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C921 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C923 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C925 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C926 | | Electrolytic 10uF/35V | |
| C931 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C936 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C937 | | Electrolytic 10uF/35V | |
| C938 | | Electrolytic 1uF/50V | |
| C939,940 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C943 | 963 9004 711 | Electrolytic 0.1uF/50V | |
| C944 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C946,947 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C948 | | Electrolytic 10uF/35V | |
| C949 | | Electrolytic 2.2uF/50V | |
| C950 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C951 | | Electrolytic 100uF/10V | |
| C952,953 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C954 | 963 9004 698 | Ceramic chip 0.01uF/50V | |
| C956 | 963 9004 685 | Ceramic chip 1000pF/50V | |
| C957 | 963 9004 711 | Ceramic chip 0.1uF/50V | |
| C958 | | Electrolytic 100uF/10V | |

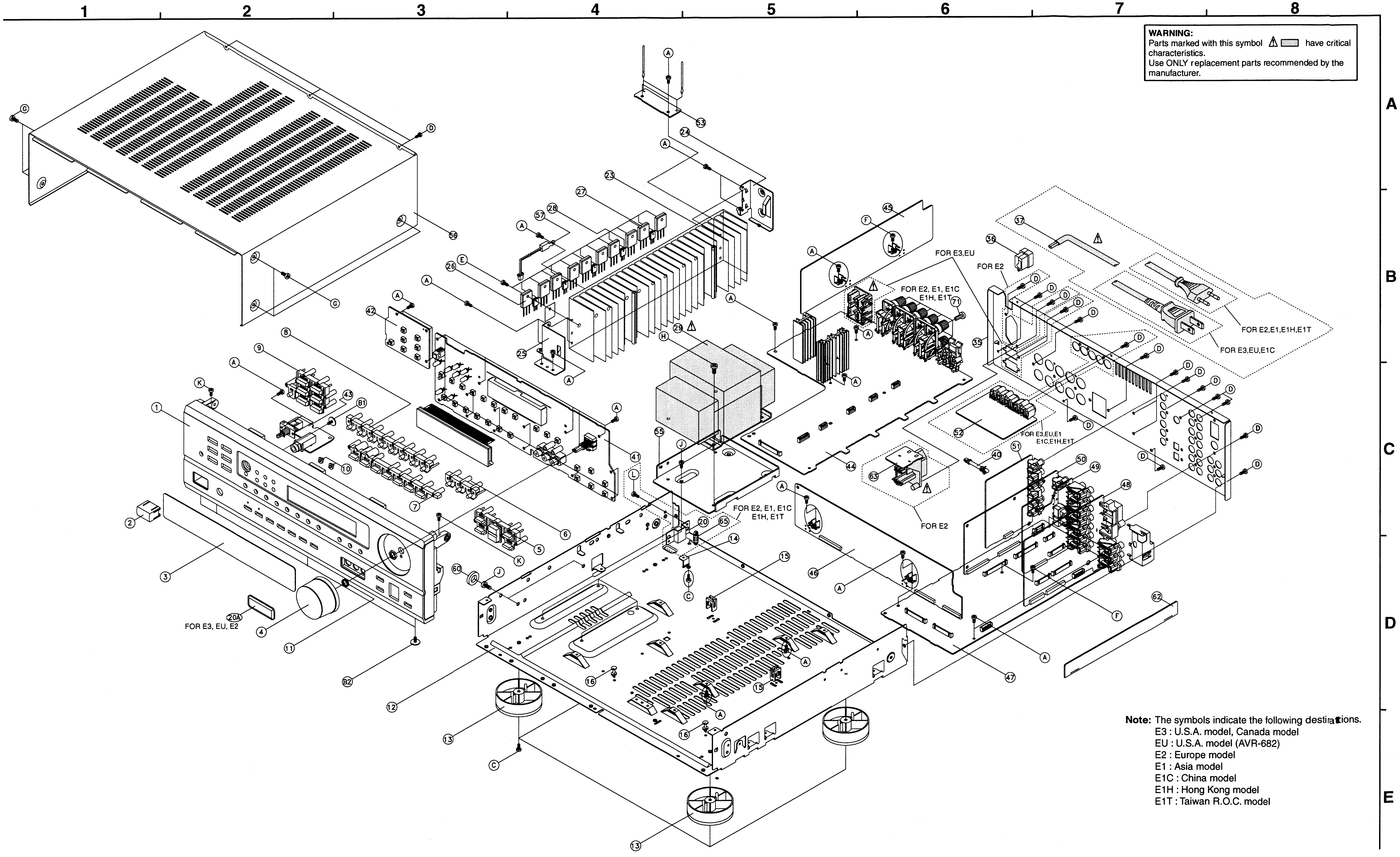
| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| **OTHER PARTS GROUP** | | | | |
| CB801 | 963 0050 502 | Chip beads HB-IT2012 | | 1 |
| CB803-808 | 963 0050 502 | Chip beads HB-IT2012 | | 6 |
| CB828 | 963 0050 502 | Chip beads HB-IT2012 | | 1 |
| CN801,802 | 963 0049 704 | 17P connector base | | 2 |
| CN803 | 963 0046 309 | 8P connector base | | 1 |
| JACK801 | 963 0052 500 | 1P pin jack | | 1 |
| L801,802 | 963 0050 803 | Inductor 4.7uH | | 2 |
| L803 | 963 0050 900 | Inductor 2.2uH | | 1 |
| L805,806 | 963 0050 803 | Inductor 4.7uH | | 2 |
| L807 | 963 0050 900 | Inductor 2.2uH | | 1 |
| XTAL801 | 960 0180 907 | Crystal 12.288MHz | | 1 |

**Note :** The symbols in the column "Remarks" indicate the following destinations.
E1 : Asia model
E1H : Hong Kong model
E1T : Taiwan R.O.C. model

## VOLTAGE SEL. P.W.B. ASS'Y
### (for Asia, Hong Kong & Taiwan R.O.C. model)

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| **OTHER PARTS GROUP** | | | | |
| CN105 | 963 0059 105 | 2P connector cord | for E1,E1H,E1T | 1 |
| CN903 | 963 0058 805 | 2P connector cord | for E1,E1H,E1T | 1 |
| CP901 | 963 0061 203 | 5P connector base | for E1,E1H,E1T | 1 |
| CP902 | 963 0059 309 | 3P connector cord | for E1,E1H,E1T | 1 |
| ⚠F101 | 960 0142 602 | Fuse 250V-T2.5A | for E1,E1H,E1T | 1 |
| F101A,101B | 960 0005 804 | Fuse clip | for E1,E1H,E1T | 2 |
| ⚠F102 | 963 0044 709 | Fuse 250V-T3.15A | for E1,E1H,E1T | 1 |
| F102A,102B | 960 0005 804 | Fuse clip | for E1,E1H,E1T | 2 |
| ⚠F901 | 963 0057 107 | Fuse 250V-T6.3A | for E1,E1H,E1T | 1 |
| F901A,901B | 960 0005 804 | Fuse clip | for E1,E1H,E1T | 2 |
| JK911 | 960 0143 203 | AC outlet | for E1,E1H,E1T | 1 |
| JK912 | 963 0056 904 | Slide switch | for E1,E1H,E1T | 1 |
| | | P.C. supporter | for E1,E1H,E1T | 2 |
| | | Card spacer | for E1,E1H,E1T | 1 |

## EXPLODED VIEW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81
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20A
FOR E3, EU, E2
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82
5
K
60
J
45
F
A
FOR E3,EU
FOR E2
FOR E2, E1, E1C
E1H, E1T
71
29
H
55
J
L
FOR E2, E1, E1C
E1H, E1T
20
65
14
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C
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13
C
13
16
A
44
46
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A
37
36
35
D
FOR E2,E1,E1H,E1T
FOR E3,EU,E1C
52
FOR E3,EU,E1
E1C,E1H,E1T
51
40
63
FOR E2
50
49
48
62
F
A
47

**WARNING:**
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

**Note:** The symbols indicate the following destinations.
E3 : U.S.A. model, Canada model
EU : U.S.A. model (AVR-682)
E2 : Europe model
E1 : Asia model
E1C : China model
E1H : Hong Kong model
E1T : Taiwan R.O.C. model

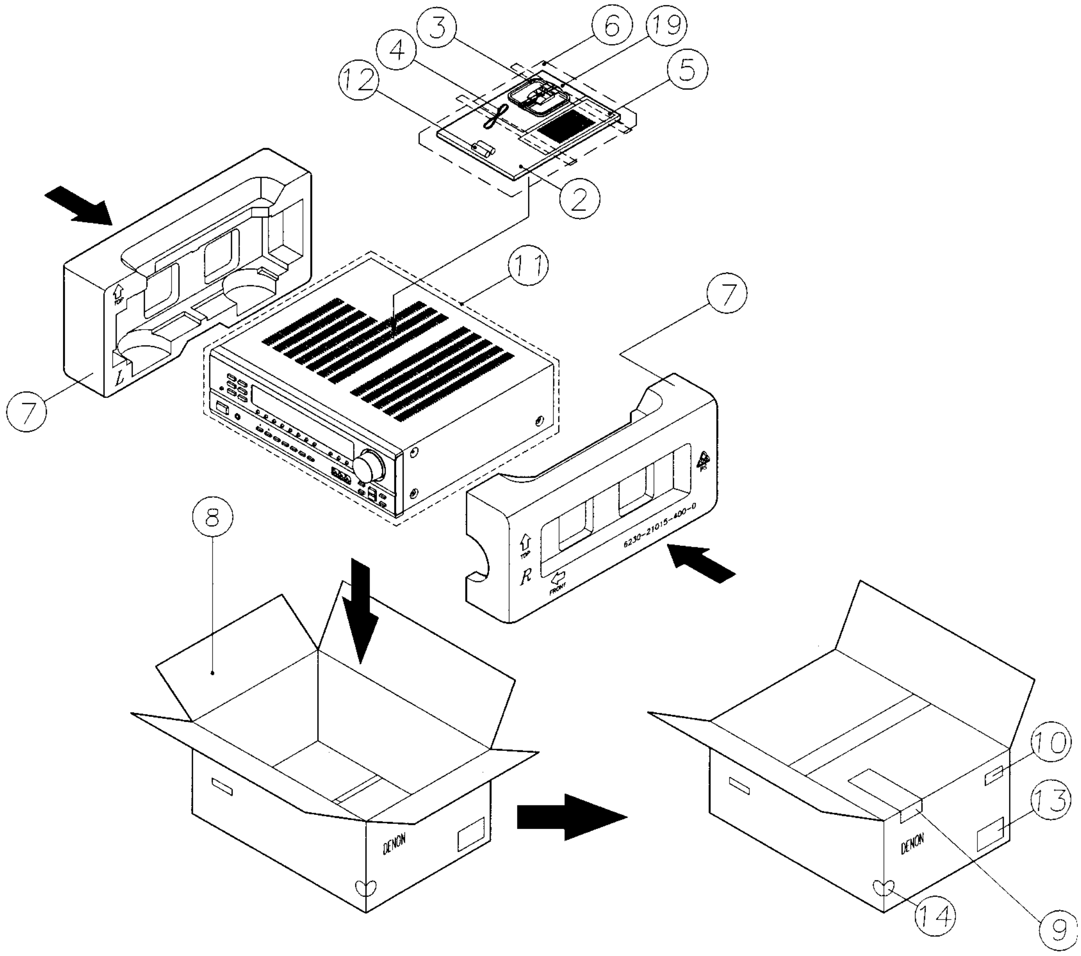
# PARTS LIST OF EXPLODED VIEW

**Note :** The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A. & Canada model
EU: U.S.A. model (AVR-682)
E2: Europe model
E1: Asia model
E1C: China model
E1H: Hong Kong model
E1T: Taiwan R.O.C. model

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| 41F | 963 0073 149 | CPU P.W.B. Ass'y | for E3,EU | 1 |
| 41F | 963 0073 136 | CPU P.W.B. Ass'y | for E2 | 1 |
| 41F | 963 0073 110 | CPU P.W.B. Ass'y | for E1,E1H,E1T | 1 |
| 41F | 963 0073 123 | CPU P.W.B. Ass'y | for E1C | 1 |
| 41 | | Front P.W.B. | | |
| 47 | | CPU P.W.B. | | |
| 53 | | Video CNT P.W.B. | for E3,EU,E1,E1C,E1H,E1T | |
| 63 | | Outlet P.W.B. | for E2 | |
| 42F | 963 0073 246 | CNT P.W.B. Ass'y | for E3,EU | 1 |
| 42F | 963 0073 233 | CNT P.W.B. Ass'y | for E2 | 1 |
| 42F | 963 0073 217 | CNT P.W.B. Ass'y | for E1,E1H,E1T | 1 |
| 42F | 963 0073 220 | CNT P.W.B. Ass'y | for E1C | 1 |
| 42 | | Switch P.W.B. | | |
| 43 | | Headphone P.W.B. | | |
| 46 | | CNT P.W.B. | | |
| 48 | | Tuner P.W.B. | | |
| 51 | | Video P.W.B. | | |
| 52 | | S-Video P.W.B. | for E3,EU,E1,E1C,E1H,E1T | |
| 44F | 963 0073 042 | Main P.W.B. Ass'y | for E3,EU | 1 |
| 44F | 963 0073 039 | Main P.W.B. Ass'y | for E2 | 1 |
| 44F | 963 0073 013 | Main P.W.B. Ass'y | for E1,E1H,E1T | 1 |
| 44F | 963 0073 026 | Main P.W.B. Ass'y | for E1C | 1 |
| 44 | | Main P.W.B. | | |
| 49 | | Input P.W.B. | | |
| 62 | | Front CNT P.W.B. | | |
| 45F | 963 0073 343 | Pre-amp P.W.B. Ass'y | for E3,EU | 1 |
| 45F | 963 0073 330 | Pre-amp P.W.B. Ass'y | for E2 | 1 |
| 45F | 963 0073 314 | Pre-amp P.W.B. Ass'y | for E1,E1H,E1T | 1 |
| 45F | 963 0073 327 | Pre-amp P.W.B. Ass'y | for E1C | 1 |
| 45 | | Pre-amp P.W.B. | | |
| 50F | 963 0073 440 | DSP P.W.B. Ass'y | for E3,EU | 1 |
| 50F | 963 0073 437 | DSP P.W.B. Ass'y | for E2 | 1 |
| 50F | 963 0073 411 | DSP P.W.B. Ass'y | for E1,E1H,E1T | 1 |
| 50F | 963 0073 424 | DSP P.W.B. Ass'y | for E1C | 1 |
| 50 | | DSP P.W.B. | | |
| 64F | 963 0079 004 | Voltage sel. P.W.B. Ass'y | for E1,E1H,E1T | 1 |
| 64 | | Voltage sel. P.W.B. | for E1,E1H,E1T | |
| 1 | 963 0072 056 | Front panel | for E3 | 1 |
| 1 | 963 0072 027 | Front panel | for EU | 1 |
| 1 | 963 0072 030 | Front panel | for E2 | 1 |
| 1 | 963 0072 014 | Front panel | for E1,E1C,E1H,E1T | 1 |
| 2 | 960 0185 009 | Power button | for black model | 1 |
| 2 | 960 0191 705 | Power button | for gold model | 1 |
| 3 | 963 0072 412 | Display window | | 1 |
| 4 | 963 0054 906 | Volume knob | for black model | 1 |
| 4 | 960 0191 608 | Volume knob | for gold model | 1 |
| 5 | 963 0053 703 | 5 key button | for black model | 1 |
| 5 | 960 0191 802 | 5 key button | for gold model | 1 |
| 6 | 963 0053 606 | 3 key button | for black model | 1 |
| 6 | 960 0192 209 | 3 key button | for gold model | 1 |
| 7 | 963 0076 706 | 7 key button (A) | for black model | 1 |
| 7 | 963 0072 506 | 7 key button (A) | for gold model | 1 |
| 8 | 963 0053 509 | 8 key button | for black model | 1 |
| 8 | 960 0192 102 | 8 key button | for gold model | 1 |
| 9 | 963 0076 803 | 7 key button (B) | for black model | 1 |
| 9 | 963 0072 603 | 7 key button (B) | for gold model | 1 |
| 10 | 960 0191 417 | LED lens | | 2 |
| 11 | 963 0051 006 | Knob spring | | 1 |
| 12 | 960 0198 229 | Main chassis | | 1 |
| 13 | 960 0183 904 | Foot | | 4 |
| 14 | 960 0184 107 | Supporter bracket | | 1 |
| 15 | 960 0003 301 | PWB supporter | | 2 |
| 16 | 963 0051 103 | Card spacer | | 2 |
| 20 | 963 0081 607 | Side bracket | for E2,E1,E1C,E1H,E1T | 1 |
| 20A | 963 0090 300 | Pin jack cover | for E3,EU,E2 | 1 |
| 23 | — | Heat sink | | 1 |
| 24 | 960 0184 204 | Heat sink bracket B | | 1 |
| 25 | 960 0184 301 | Heat sink bracket F | | 1 |
| 26 | 960 0090 107 | Transistor 2SB1599Y | Q102C,102FL,102FR,102SL,102SR | 5 |
| 27 | 960 0090 000 | Transistor 2SD2389Y | Q101C,101FL,101FR,101SL,101SR | 5 |
| 28 | 963 0058 106 | Transistor 2SD947F | Q103C,103FL,103FR,103SL,103SR | 5 |
| ⚠ 29 | 963 0090 245 | Power trans | for E3,EU | 1 |
| ⚠ 29 | 963 0090 232 | Power trans | for E2 | 1 |
| ⚠ 29 | 963 0090 216 | Power trans | for E1,E1H,E1T | 1 |
| ⚠ 29 | 963 0090 229 | Power trans | for E1C | 1 |
| 35 | 963 0072 137 | Back chassis | for E3 | 1 |
| 35 | 963 0072 140 | Back chassis | for EU | 1 |
| 35 | 963 0072 124 | Back chassis | for E2 | 1 |
| 35 | 963 0072 111 | Back chassis | for E1,E1H,E1T | 1 |
| 35 | 963 0072 153 | Back chassis | for E1C | 1 |
| 36 | 960 0192 403 | AC cord stopper | | 1 |
| ⚠ 37 | 960 0166 400 | AC cord | for E3,EU | 1 |
| ⚠ 37 | 960 0202 500 | AC cord | for E2 | 1 |
| ⚠ 37 | 963 0060 408 | AC cord | for E1,E1T | 1 |
| ⚠ 37 | 963 0063 301 | AC cord | for E1C | 1 |
| ⚠ 37 | 960 0143 009 | AC cord | for E1H | 1 |
| 40 | 963 0061 902 | Fastener | | 1 |
| 55 | 963 0072 205 | Trans bracket | | 1 |
| 56 | 963 0053 017 | Top cover | for black model | 1 |
| 56 | 960 0191 019 | Top cover | for gold model | 1 |
| 57 | 960 0187 900 | Posistor | | 1 |
| 60 | 963 0072 302 | Rubber cushion | | 2 |
| 65 | 963 0044 602 | P.C. supporter | for E2,E1,E1C,E1H,E1T | 1 |
| 71 | 960 0093 104 | Terminal bushing | for E2,E1,E1C,E1H,E1T | 10 |
| ★ 72 | 960 0155 301 | Wire clamp band | | 3 |
| ★ 73 | 963 0054 207 | Fuse caution label | for E3,EU | 1 |
| ★ 74 | 963 0076 007 | 15P FCC | | 1 |

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| **SCREWS** | | | | |
| A | 963 0018 007 | Screw 3x8 CBTS(B)-Z | for E3,EU,E1,E1C,E1H,E1T | 46 |
| A | 963 0018 007 | Screw 3x8 CBTS(B)-Z | for E2 | 44 |
| B1 | 960 9008 420 | Screw 3x8 CBTS(B) W-Z | for black model | 1 |
| B1 | 960 9008 420 | Screw 3x8 CBTS(B) W-Z | for gold model | 5 |
| B2 | 960 9008 527 | Screw 3x8 CBTS(B) W-B | for black model | 4 |
| C | 963 0048 200 | Screw 3x10 CBTS(B)-Z | | 5 |
| D | 960 0108 714 | Screw 3x10 CBTS(B) DOT-B | for E3,EU | 32 |
| D | 960 0108 714 | Screw 3x10 CBTS(B) DOT-B | for E2 | 29 |
| D | 960 0108 714 | Screw 3x10 CBTS(B) DOT-B | for E1,E1T | 34 |
| D | 960 0108 714 | Screw 3x10 CBTS(B) DOT-B | for E1C,E1H | 30 |
| E | 963 9004 009 | Screw 3x14 CHTS(B) SW W-Z | | 15 |
| F | 963 0018 104 | Screw 3x17 CBTS(B)-Z | for E3,EU,E2,E1,E1H,E1T | 4 |
| F | 963 0018 104 | Screw 3x17 CBTS(B)-Z | for E1C | 2 |
| G | 963 0048 307 | Screw 4x8 CBTS(B) DOT-B | for black model | 6 |
| G | 963 9004 012 | Screw 4x8 CBTS(B) DOT-Ni | for gold model | 6 |
| H | 960 9008 417 | Screw 4x8 CBTS SW W-Z | | 4 |
| J | 963 9004 025 | Screw 4x6 CBTS(S)-Z | | 6 |
| K | 963 9004 038 | Screw 3x8 CBTS(B) W-Z | | 2 |
| L | 963 9004 041 | Screw 3x5 CBTS(B)-Z | for E2,E1,E1C,E1H,E1T | 2 |

## PACKING VIEW

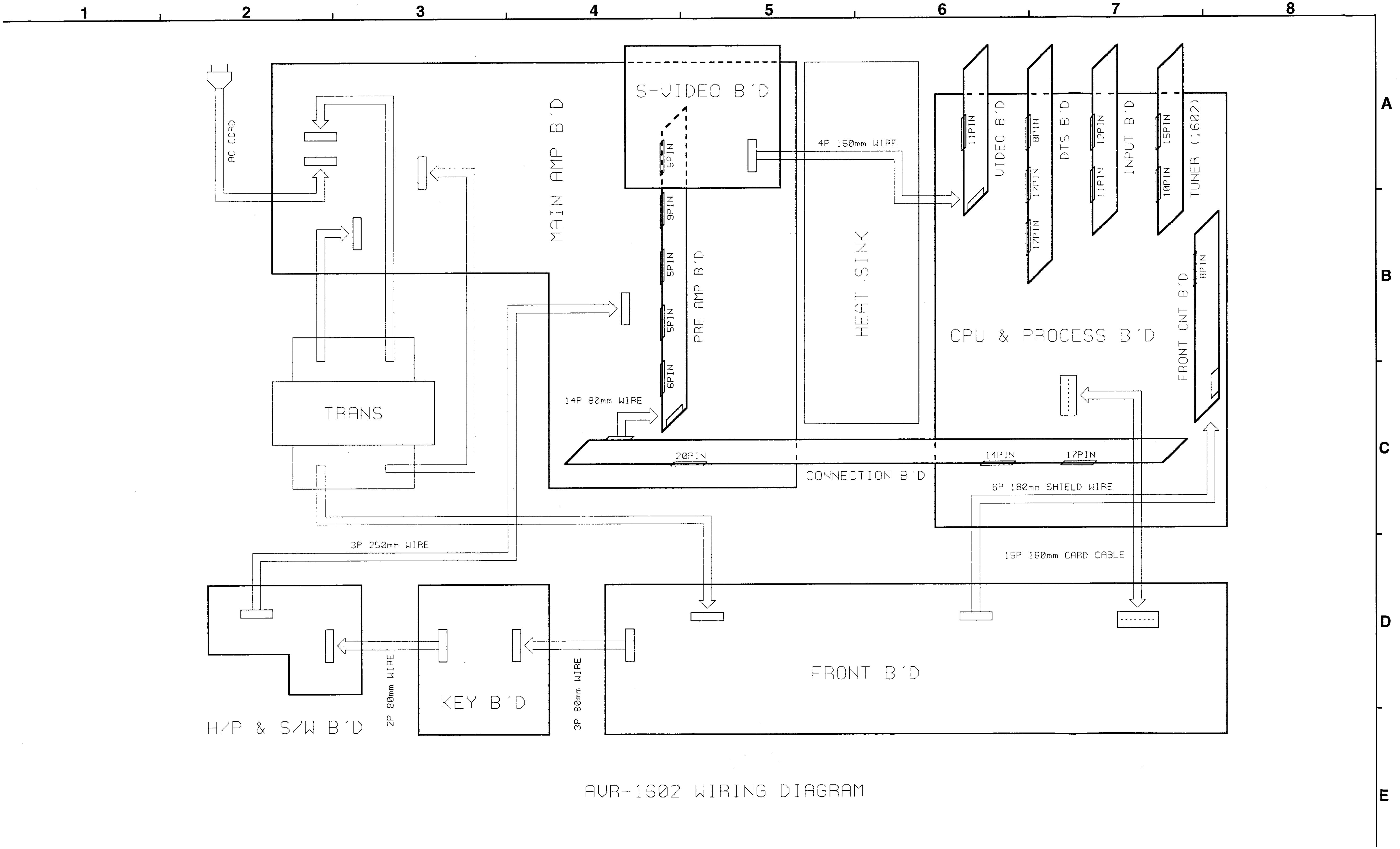


## PARTS LIST OF PACKING & ACCESSORIES

**Note :** The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A. & Canada model
EU: U.S.A. model (AVR-682)
E2: Europe model
E1: Asia model
E1C: China model
E1H: Hong Kong model
E1T: Taiwan R.O.C. model

| Ref. No. | Part No. | Part Name | Remarks | Q'ty |
|---|---|---|---|---|
| 2 | 963 0072 836 | Instruction manual | for E3,EU | 1 |
| 2 | 963 0072 823 | Instruction manual | for E2 | 1 |
| 2 | 963 0072 810 | Instruction manual | for E1,E1C,E1H,E1T | 1 |
| 3 | 963 0052 306 | Loop antenna | | 1 |
| 4 | 963 0052 209 | FM antenna | | 1 |
| 5 | 963 0076 900 | Remote controller RC-896 | | 1 |
| 6 | 963 0045 106 | Poly. bag | | 1 |
| 7 | 960 0193 101 | Cushion | | 1 |
| ★ 7A | 963 0055 918 | Pad | for E1H | 2 |
| 8 | 963 0072 933 | Carton case | for E3,E2 | 1 |
| 8 | 963 0072 959 | Carton case | for EU | 1 |
| 8 | 963 0072 917 | Carton case | for E1,E1C,E1T | 1 |
| 8 | 963 0072 920 | Carton case | for E1H | 1 |
| 9 | 515 0866 005 | Warranty card | for E3,EU | 1 |
| 9A | — | Envelope (warranty) | for E3,EU | 1 |
| 10 | — | UPC label | for E3 | 1 |
| 10 | — | UPC label | for EU | 1 |
| 10 | — | POS label | for E2 | 1 |
| 11 | 960 0185 601 | Poly. bag | for set | 1 |
| 12 | — | Battery (R6P/AA) | | 2 |
| 13 | 960 0092 901 | Control card | | 2 |
| 14 | — | Color label (gold) | for gold model | 2 |
| ★ 16 | 515 0867 101 | Service station list (EX) | | 1 |
| ★ 21 | — | RDS label | for E2 | 2 |
| ★ 22 | 513 3342 009 | Carton label (B) | for E1,E1C,E1H,E1T | 1 |
| ★ 23 | 513 3341 000 | Carton label (A) | for E1,E1C,E1H,E1T | 1 |
| ★ 24 | 513 3340 001 | Label (A) | for E1,E1H | 1 |
| ★ 25 | 963 0025 809 | Preset label | for E1,E1H,E1T | 1 |
| ★ 26 | 513 3331 007 | DTS label | for E1,E1H,E1T | 1 |
| ★ 27 | — | CCIB label | for E1C | 1 |
| ★ 28 | — | Box label (gold) | for E1C | 1 |
| ★ 29 | 513 2481 000 | Serial no. label (T) | for E1T | 1 |
| ★ 30 | — | Caution label | for E1T | 1 |
| ★ 31 | — | Kolin label (rating) | for E1T | 1 |
| ★ 32 | — | Kolin label (box) | for E1T | 1 |
| ★ 33 | 960 0185 300 | Registration card | for E3,EU | 1 |
| ⚠ ★ 35 | 963 0061 300 | AC adapter | for E1,E1C,E1T | 1 |

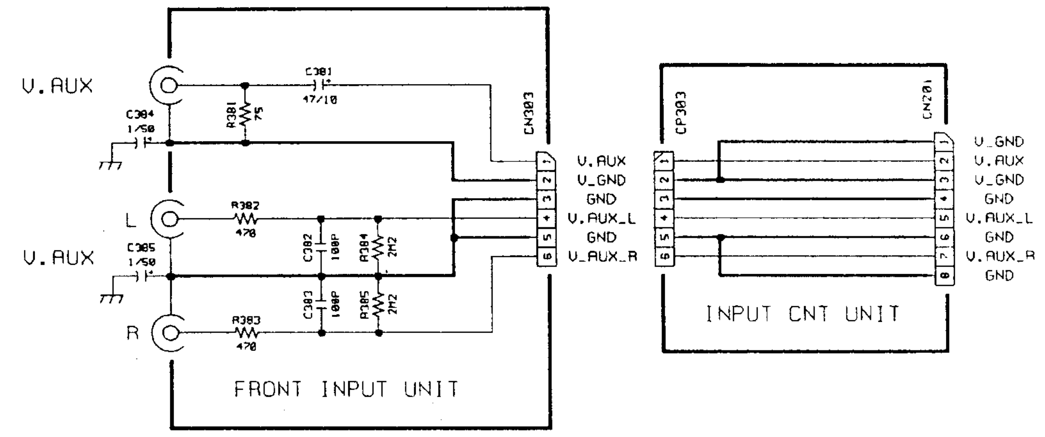
## WIRING DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
AC CORD
MAIN AMP B'D
S-VIDEO B'D
5PIN
9PIN
5PIN
5PIN
6PIN
PRE AMP B'D
4P 150mm WIRE
HEAT SINK
11PIN
VIDEO B'D
8PIN
17PIN
17PIN
DTS B'D
12PIN
11PIN
INPUT B'D
15PIN
10PIN
TUNER (1602)
8PIN
FRONT CNT B'D
CPU & PROCESS B'D
TRANS
14P 80mm WIRE
20PIN
14PIN
17PIN
CONNECTION B'D
6P 180mm SHIELD WIRE
3P 250mm WIRE
15P 160mm CARD CABLE
H/P & S/W B'D
2P 80mm WIRE
KEY B'D
3P 80mm WIRE
FRONT B'D

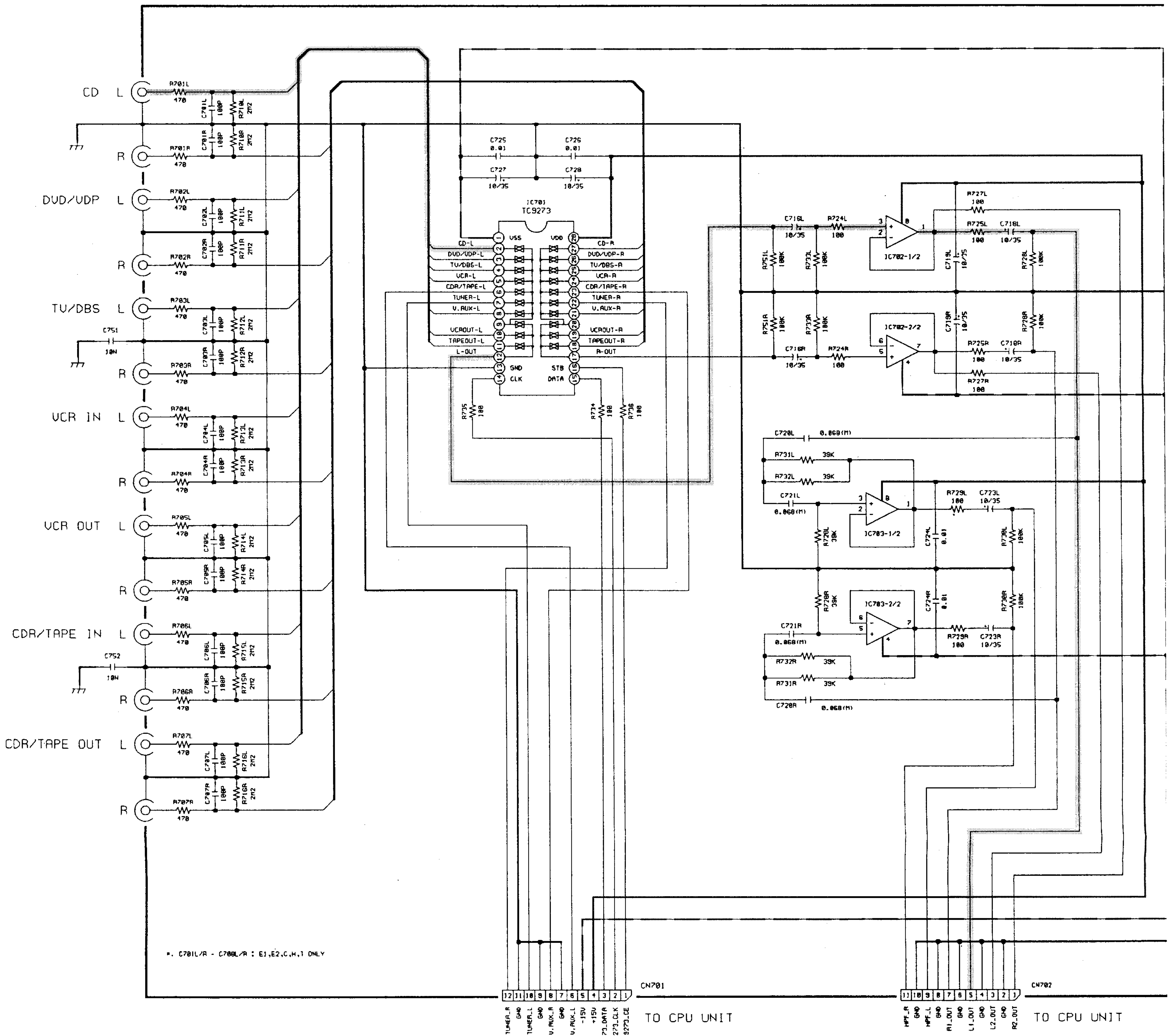
AVR-1602 WIRING DIAGRAM

# SCHEMATIC DIAGRAMS(1/7)

1 2 3 4 5 6



V.AUX
V.AUX
L
R
C304 1/50
C305 1/50
C301 47/10
R301 75
R302 470
R303 470
C302 100P
C303 100P
R304 2M2
R305 2M2
CN303
V.AUX
V_GND
GND
V.AUX_L
GND
V.AUX_R
FRONT INPUT UNIT
CP303
CN701
V_GND
V.AUX
V_GND
GND
V.AUX_L
GND
V.AUX_R
GND
INPUT CNT UNIT



CD L
R
DVD/VDP L
R
TV/DBS L
R
VCR IN L
R
VCR OUT L
R
CDR/TAPE IN L
R
CDR/TAPE OUT L
R
C751 10N
C752 10N
R701L 470
R701R 470
C701L 100P
R710L 2M2
IC701 TC9273
C725 0.01
C726 0.01
C727 10/35
C728 10/35
CD-L
DVD/VDP-L
TV/DBS-L
VCR-L
CDR/TAPE-L
TUNER-L
V.AUX-L
VCROUT-L
TAPEOUT-L
L-OUT
VSS
GND
CLK
VDD
STB
DATA
CD-R
DVD/VDP-R
TV/DBS-R
VCR-R
CDR/TAPE-R
TUNER-R
V.AUX-R
VCROUT-R
TAPEOUT-R
R-OUT
R735 100
R734 100
R736 100
C716L 10/35
R724L 100
R751L 100K
R733L 100K
IC702-1/2
IC702-2/2
R727L 100
R725L 100
C718L 10/35
C719L 10/35
R728L 100K
R751R 100K
R733R 100K
C716R 10/35
R724R 100
R725R 100
C718R 10/35
R727R 100
C719R 10/35
R728R 100K
C720L 0.068(M)
R731L 39K
R732L 39K
C721L 0.068(M)
R726L 39K
IC703-1/2
R729L 100
C723L 10/35
C724L 0.01
R730L 100K
R726R 39K
IC703-2/2
C724R 0.01
R730R 100K
C721R 0.068(M)
R732R 39K
R731R 39K
C720R 0.068(M)
R729R 100
C723R 10/35
*. C701L/R - C708L/R : E1,E2,C,H,1 ONLY
CN701
TUNER_R
GND
TUNER_L
GND
V.AUX_R
GND
V.AUX_L
-15V
+15V
9273_DATA
9273_CLK
9273_CE
TO CPU UNIT
CN702
HPF_R
GND
HPF_L
GND
R1_OUT
GND
L1_OUT
GND
L2_OUT
GND
R2_OUT
TO CPU UNIT

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

## WARNING:

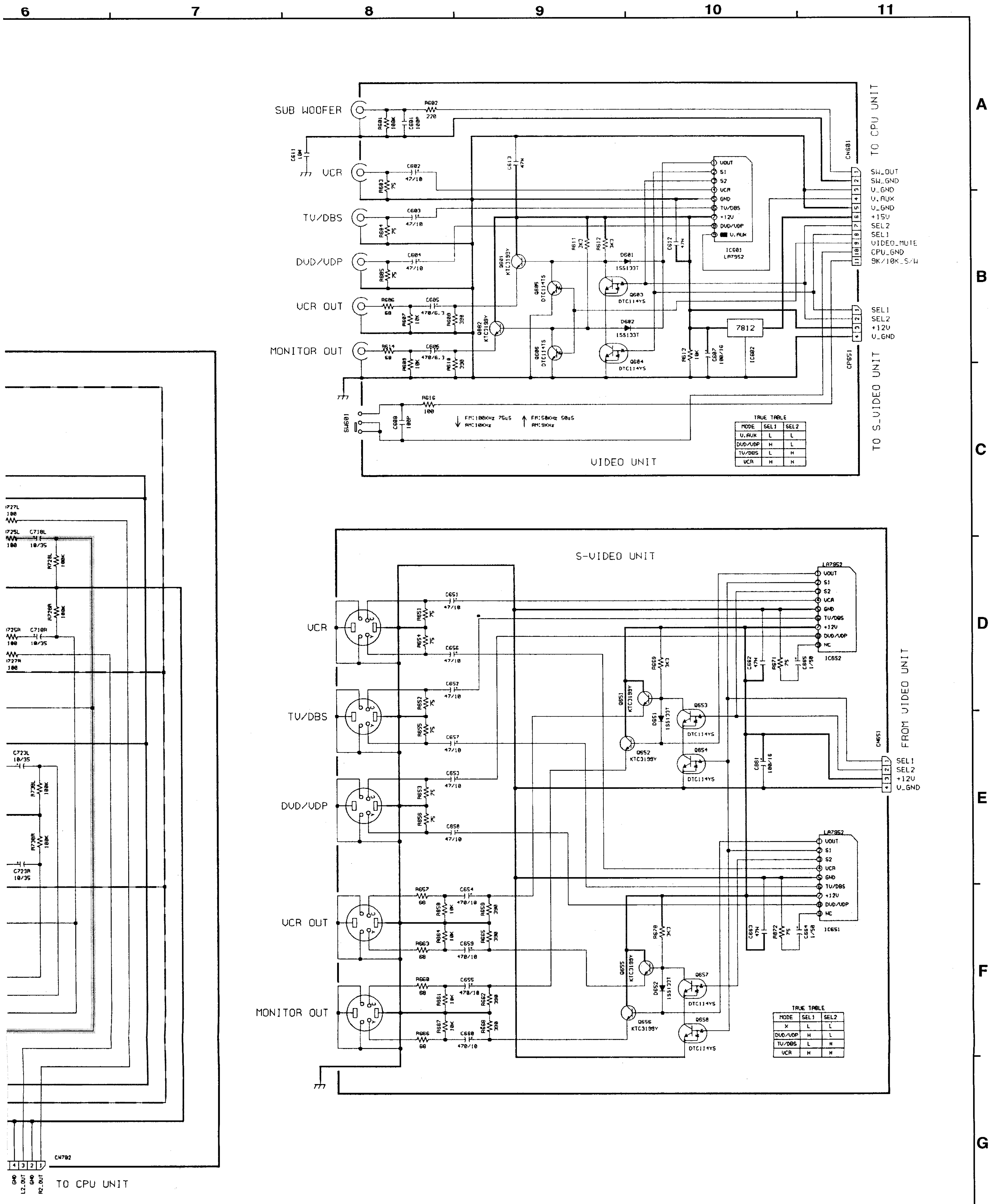
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

## CAUTION:

Before returning the unit to the customer, make sure you make either (1 leakage current check or (2) a line to chassis resistance check. If the le current exceeds 0.5 milliamps, or if the resistance from chassis to eithe of the power card is less than 460kohms, the unit is defective.

## WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
SUB WOOFER
VCR
TV/DBS
DVD/VDP
VCR OUT
MONITOR OUT
VIDEO UNIT
TO CPU UNIT
CN601
SW_OUT
SW_GND
V_GND
V_AUX
V_GND
+15V
SEL2
SEL1
VIDEO_MUTE
CPU_GND
9K/10K_S/W
IC601
LA7952
VOUT
S1
S2
VCR
GND
TV/DBS
+12V
DVD/VDP
V.AUX
7812
IC602
CP651
SEL1
SEL2
+12V
V_GND
TO S_VIDEO UNIT
SW601
FM:100KHz 75uS
AM:10KHz
FM:50KHz 50uS
AM:9KHz
Q601 KTC3199Y
Q602 KTC3199Y
Q605 DTC114TS
Q606 DTC114TS
Q603 DTC114YS
Q604 DTC114YS
D601 1SS133T
D602 1SS133T
S-VIDEO UNIT
IC652
IC651
LA7952
NC
CN651
FROM VIDEO UNIT
Q651 KTC3199Y
Q652 KTC3199Y
Q653 DTC114YS
Q654 DTC114YS
Q655 KTC3199Y
Q656 KTC3199Y
Q657 DTC114YS
Q658 DTC114YS
D651 1SS133T
D652 1SS133T
CN702
GND
L2_OUT
GND
R2_OUT
TO CPU UNIT

TRUE TABLE

| MODE | SEL1 | SEL2 |
|---|---|---|
| V.AUX | L | L |
| DVD/VDP | H | L |
| TV/DBS | L | H |
| VCR | H | H |

TRUE TABLE

| MODE | SEL1 | SEL2 |
|---|---|---|
| X | L | L |
| DVD/VDP | H | L |
| TV/DBS | L | H |
| VCR | H | H |

▨ have critical characteristics.
mmended by the manufacture.

stomer, make sure you make either (1) a
to chassis resistance check. If the leakage
f the resistance from chassis to either side
ohms, the unit is defective.

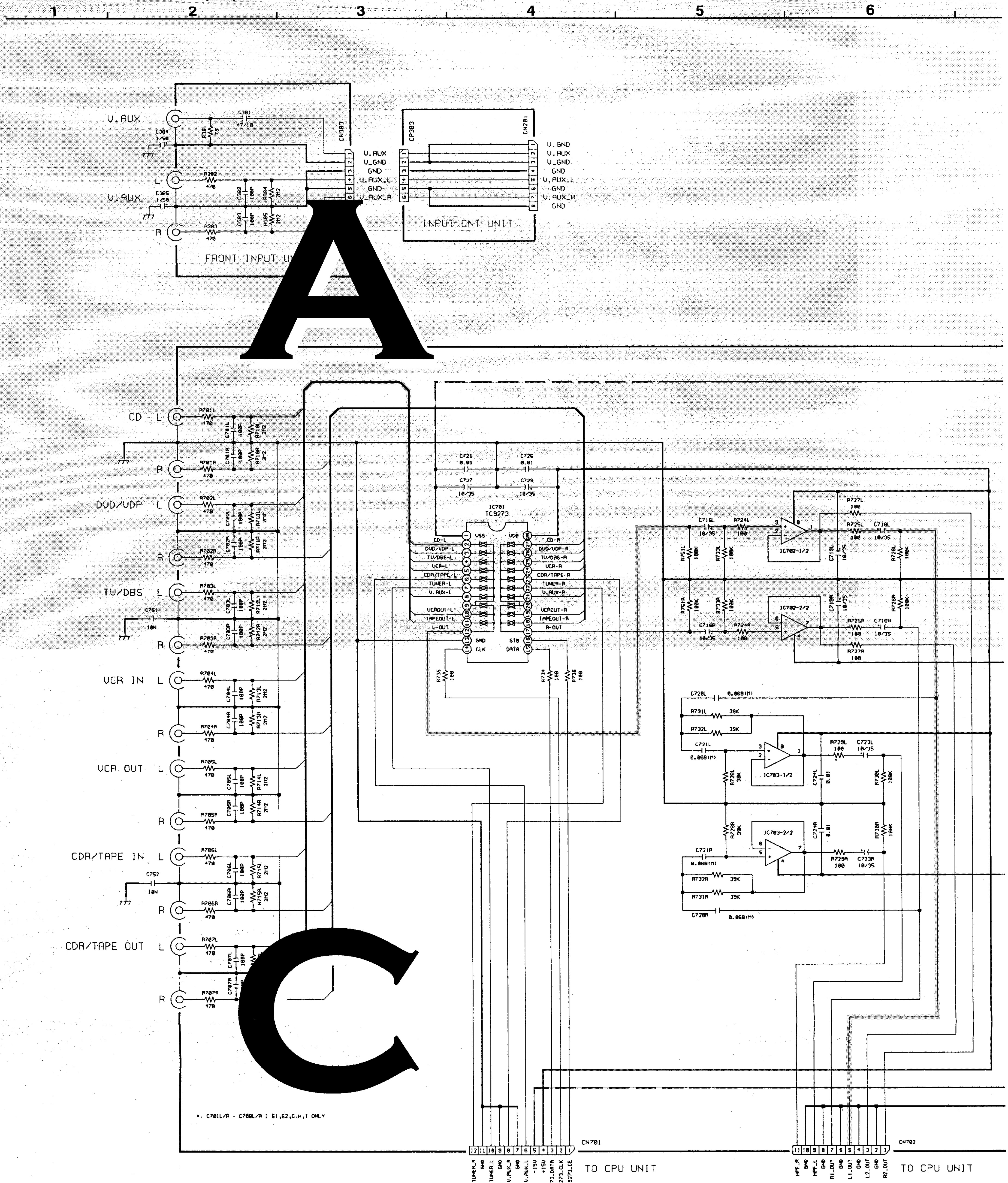
omer until the problem is located and

——— + B LINE
— — — - B LINE
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(1/7)

INPUT P.W.B. UNIT
VIDEO P.W.B. UNIT
S-VIDEO P.W.B. UNIT
FRONT INPUT P.W.B. UNIT
INPUT CNT P.W.B. UNIT

## SCHEMATIC DIAGRAMS(1/7)


1
2
3
4
5
6
A
C
V.AUX
L
V.AUX
R
FRONT INPUT UNIT
CN303
CP303
CN201
INPUT CNT UNIT
V.AUX
V_GND
GND
V.AUX_L
GND
V.AUX_R
V_GND
C301 47/10
C304 1/50
C305 1/50
R301 75
R302 470
R303 470
C302 100P
C303 100P
R304 2M2
R305 2M2
CD L
R
DVD/VDP L
R
TU/DBS L
R
VCR IN L
R
VCR OUT L
R
CDR/TAPE IN L
R
CDR/TAPE OUT L
R
C751 10N
C752 10N
R701L 470
R701R 470
R702L 470
R702R 470
R703L 470
R703R 470
R704L 470
R704R 470
R705L 470
R705R 470
R706L 470
R706R 470
R707L 470
R707R 470
C725 0.01
C726 0.01
C727 10/35
C728 10/35
IC701 TC9273
CD-L
DVD/VDP-L
TU/DBS-L
VCR-L
CDR/TAPE-L
TUNER-L
V.AUX-L
VCROUT-L
TAPEOUT-L
L-OUT
GND
CLK
VSS
VDD
CD-R
DVD/VDP-R
TU/DBS-R
VCR-R
CDR/TAPE-R
TUNER-R
V.AUX-R
VCROUT-R
TAPEOUT-R
R-OUT
STB
DATA
R735 100
R734 100
R736 100
C716L 10/35
R724L 100
IC702-1/2
R727L 100
R725L 100
C718L 10/35
R751L 100K
R733L 100K
C719L 10/35
R728L 100K
R751R 100K
R733R 100K
C719R 10/35
R728R 100K
IC702-2/2
C716R 10/35
R724R 100
R725R 100
C718R 10/35
R727R 100
C720L 0.068(M)
R731L 39K
R732L 39K
C721L 0.068(M)
IC703-1/2
R729L 100
C723L 10/35
R726L 39K
C724L 0.01
R730L 100K
R726R 39K
IC703-2/2
C724R 0.01
R730R 100K
C721R 0.068(M)
R729R 100
C723R 10/35
R732R 39K
R731R 39K
C720R 0.068(M)
*. C701L/R - C708L/R : E1,E2,C,H,T ONLY
CN701
TUNER_R
GND
TUNER_L
GND
V.AUX_R
GND
V.AUX_L
-15V
+15V
9273_DATA
9273_CLK
9273_CE
TO CPU UNIT
CN702
HPF_R
GND
HPF_L
GND
R1_OUT
GND
L1_OUT
GND
L2_OUT
GND
R2_OUT
TO CPU UNIT

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
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WARNING:
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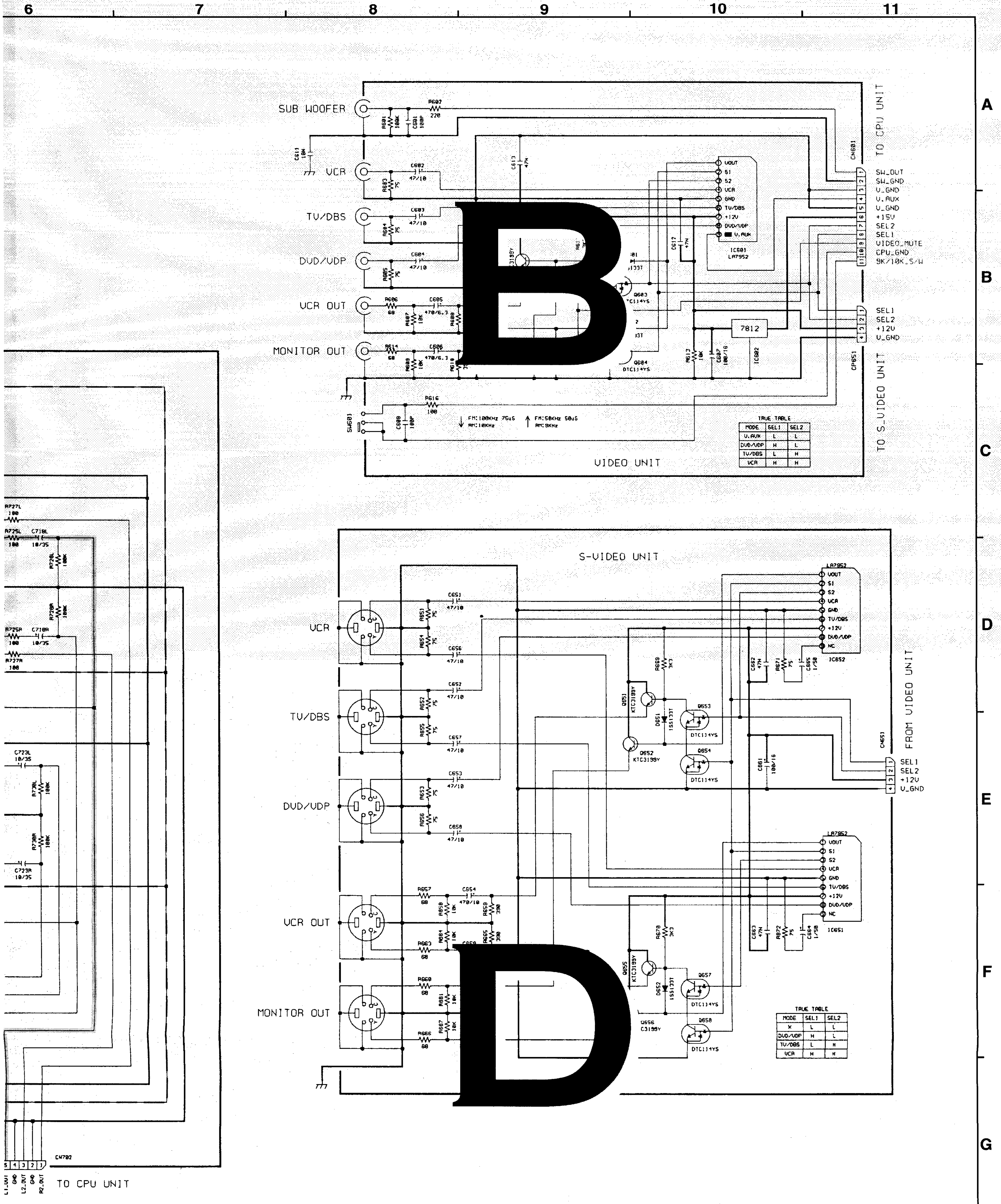
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either ( leakage current check or (2) a line to chassis resistance check. If the le current exceeds 0.5 milliamps, or if the resistance from chassis to eithe of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located an corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
B
D
SUB WOOFER
VCR
TV/DBS
DVD/VDP
VCR OUT
MONITOR OUT
R601 100K
C601 100P
R602 220
C611 10M
C602 47/10
R603 75
C603 47/10
R604 75
C604 47/10
R605 75
R606 68
C605 470/6.3
R607 10K
R614 68
C606 470/6.3
R609 10K
R616 100
SW601
C608 100P
FM:100KHz 75uS AM:10KHz
FM:50KHz 50uS AM:9KHz
C613 47M
VOUT
S1
S2
VCR
GND
TV/DBS
+12V
DVD/VDP
V.AUX
IC601 LA7952
C612 47M
Q603 DTC114YS
Q604 DTC114YS
C3199Y
1SS133T
7812
R617 10K
C607 100/16
IC602
CN601
SW_OUT
SW_GND
V_GND
V.AUX
V_GND
+15V
SEL2
SEL1
VIDEO_MUTE
CPU_GND
9K/10K_S/W
TO CPU UNIT
CP651
SEL1
SEL2
+12V
V_GND
TO S_VIDEO UNIT
VIDEO UNIT
S-VIDEO UNIT
VCR
TV/DBS
DVD/VDP
VCR OUT
MONITOR OUT
C651 47/10
R651 75
R654 75
C656 47/10
C652 47/10
R652 75
R655 75
C657 47/10
C653 47/10
R653 75
R656 75
C658 47/10
R657 68
C654 470/10
R658 10K
R659 390
R663 68
R664 10K
R665 390
R660 68
R661 10K
R666 68
R667 10K
LA7952
IC652
IC651
C662 47M
R671 75
C665 1/50
R669 3K3
Q651 KTC3199Y
D651 1SS133T
Q652 KTC3199Y
Q653 DTC114YS
Q654 DTC114YS
C661 100/16
CN651
SEL1
SEL2
+12V
V_GND
FROM VIDEO UNIT
C663 47M
R672 75
C664 1/50
R670 3K3
Q655 KTC3199Y
D652 1SS133T
Q656 C3199Y
Q657 DTC114YS
Q658 DTC114YS
R727L 100
R725L 100
C719L 10/35
R728L 100K
R728R 100K
R725R 100
C719R 10/35
R727R 100
C723L 10/35
R730L 100K
R730R 100K
C723R 10/35
CN702
L1_OUT
GND
L2_OUT
GND
R2_OUT
TO CPU UNIT

TRUE TABLE

| MODE | SEL1 | SEL2 |
|---|---|---|
| V.AUX | L | L |
| DVD/VDP | H | L |
| TV/DBS | L | H |
| VCR | H | H |

TRUE TABLE

| MODE | SEL1 | SEL2 |
|---|---|---|
| X | L | L |
| DVD/VDP | H | L |
| TV/DBS | L | H |
| VCR | H | H |

▨ have critical characteristics.
ommended by the manufacture.

stomer, make sure you make either (1) a
e to chassis resistance check. If the leakage
if the resistance from chassis to either side
kohms, the unit is defective.

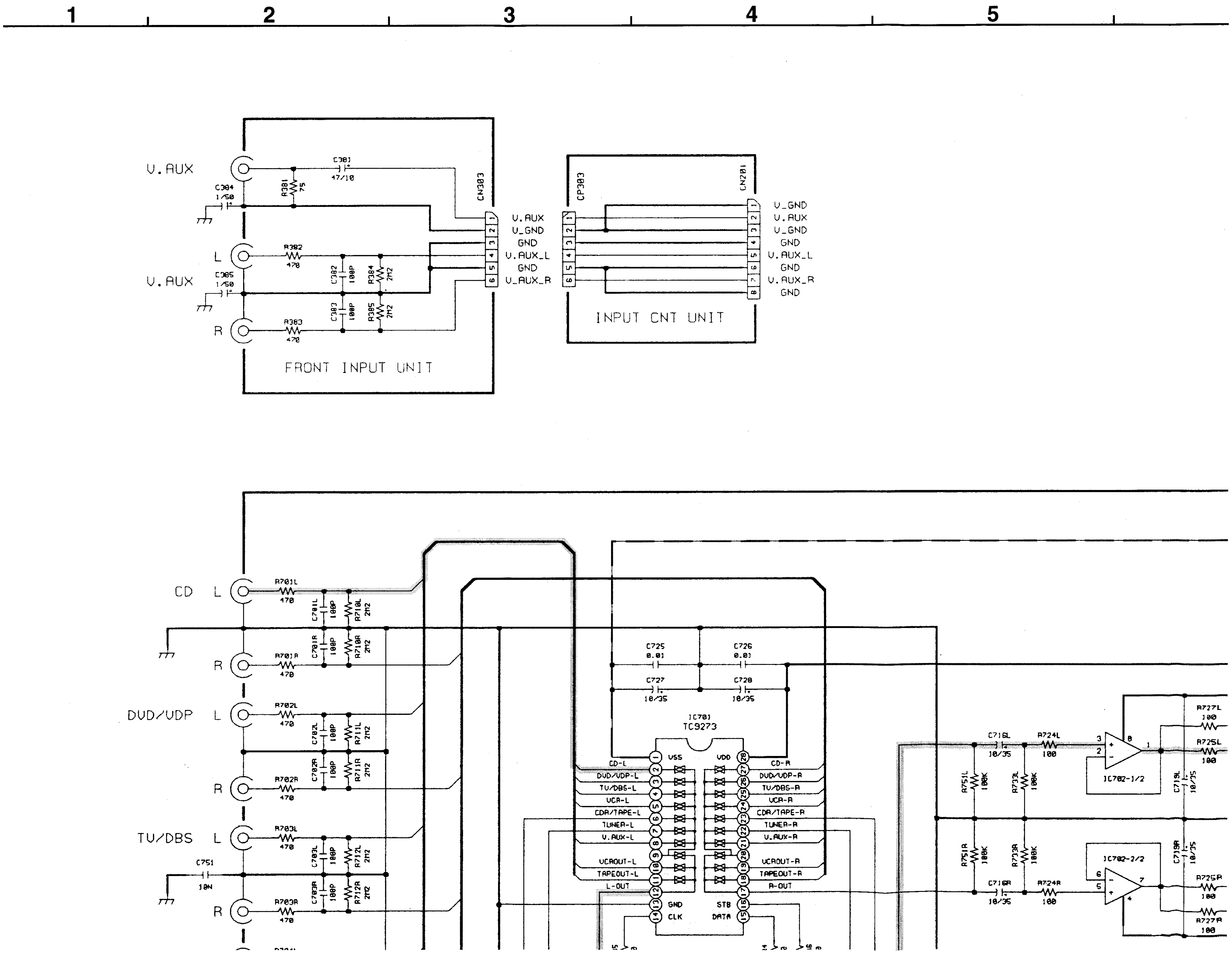
stomer until the problem is located and

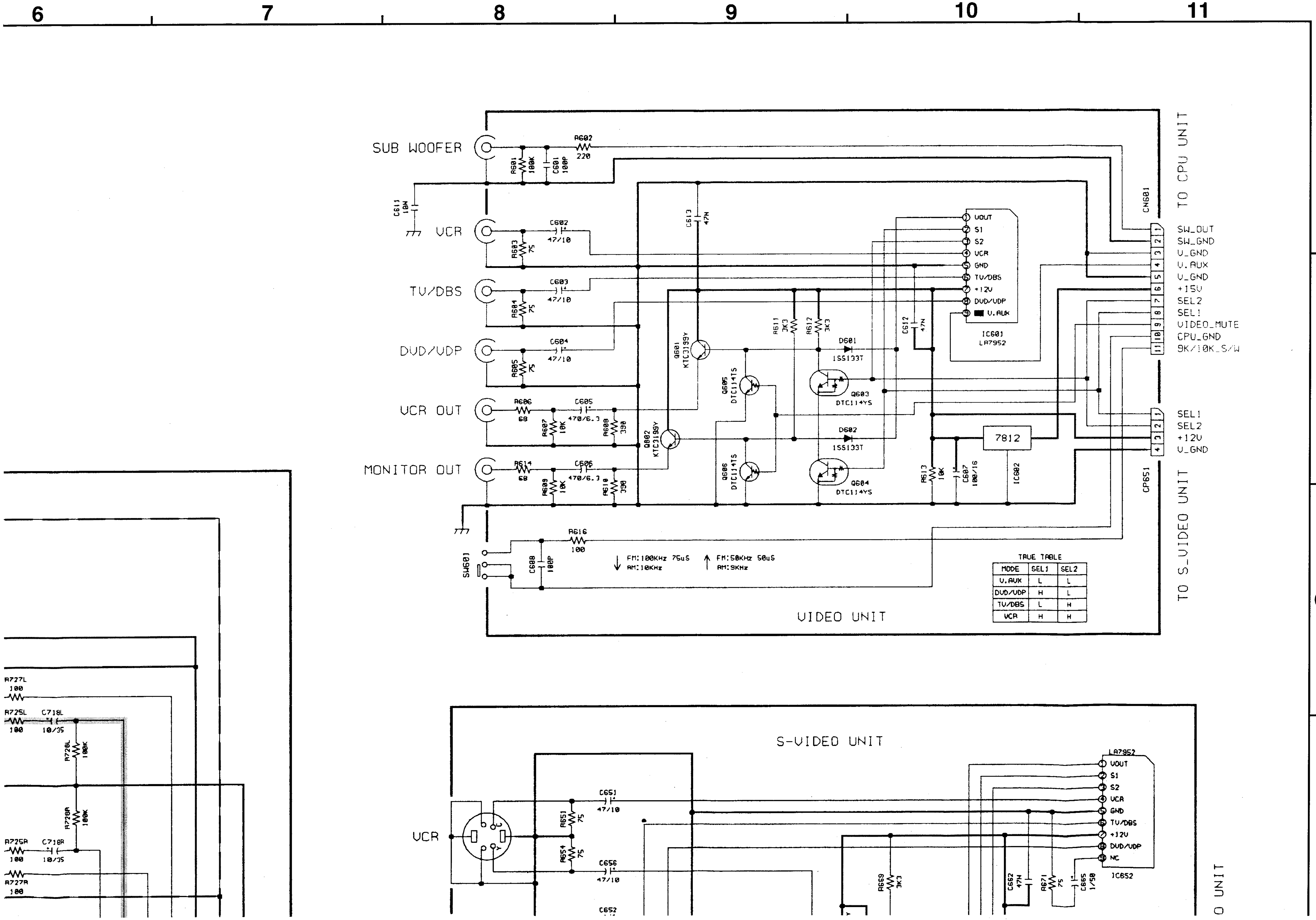
——— + B LINE
— — — – B LINE
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(1/7)

INPUT P.W.B. UNIT
VIDEO P.W.B. UNIT
S-VIDEO P.W.B. UNIT
FRONT INPUT P.W.B. UNIT
INPUT CNT P.W.B. UNIT

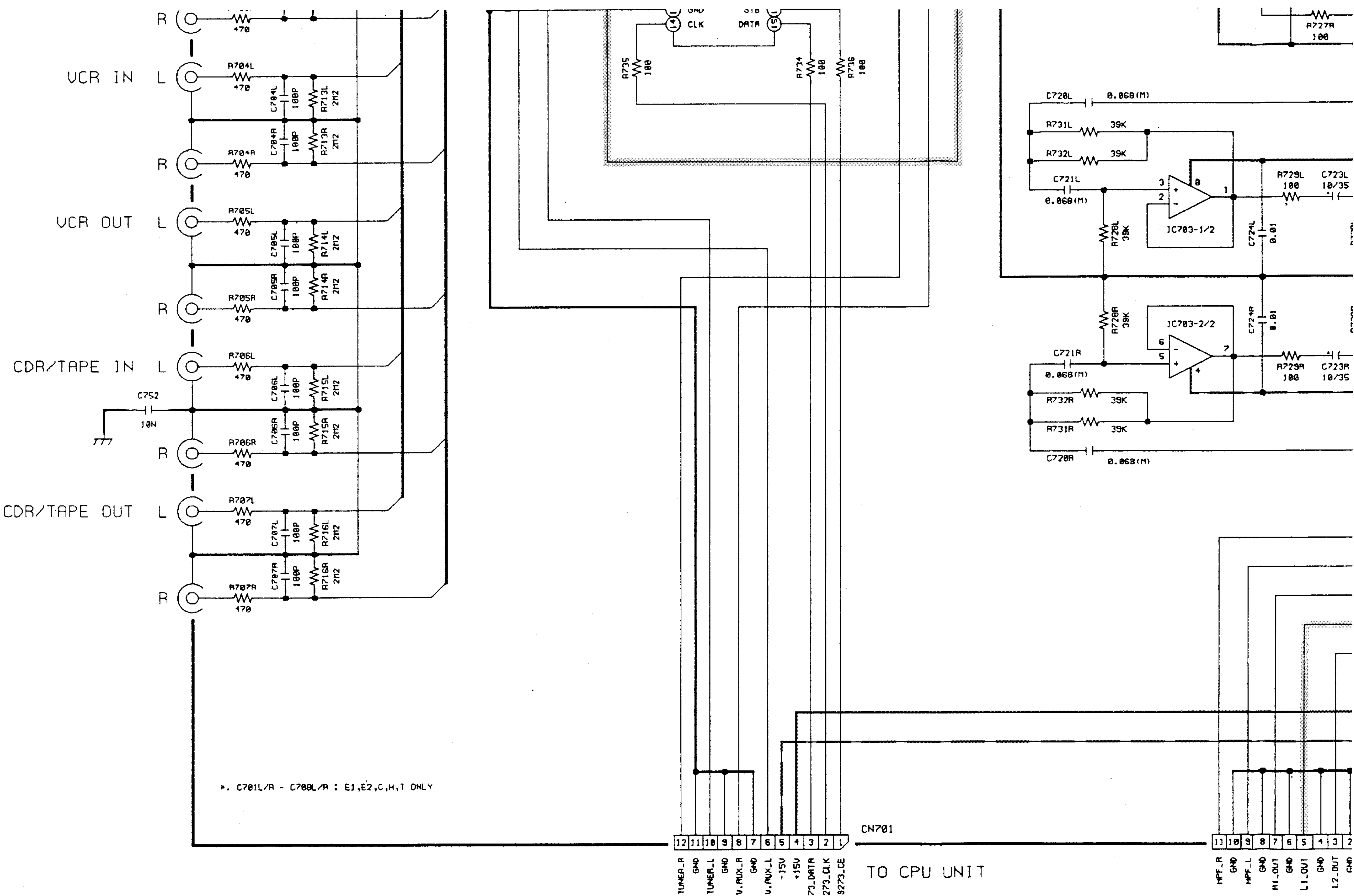
# SCHEMATIC DIAGRAMS(1/7)


1
2
3
4
5
V.AUX
C301
47/10
C304
1/50
R301
75
CN303
L
R302
470
C302
100P
R304
2M2
V.AUX
C305
1/50
C303
100P
R305
2M2
R
R303
470
FRONT INPUT UNIT
V.AUX
V_GND
GND
V.AUX_L
GND
V_AUX_R
CP303
CN201
V_GND
V.AUX
V_GND
GND
V.AUX_L
GND
V.AUX_R
GND
INPUT CNT UNIT
CD
L
R701L
470
C701L
100P
R710L
2M2
R
R701R
470
C701R
100P
R710R
2M2
DVD/VDP
L
R702L
470
C702L
100P
R711L
2M2
R
R702R
470
C702R
100P
R711R
2M2
TV/DBS
L
R703L
470
C703L
100P
R712L
2M2
C751
10N
R
R703R
470
C703R
100P
R712R
2M2
C725
0.01
C726
0.01
C727
10/35
C728
10/35
IC701
TC9273
VSS
VDD
CD-L
DVD/VDP-L
TV/DBS-L
VCR-L
CDR/TAPE-L
TUNER-L
V.AUX-L
VCROUT-L
TAPEOUT-L
L-OUT
GND
CLK
CD-R
DVD/VDP-R
TV/DBS-R
VCR-R
CDR/TAPE-R
TUNER-R
V.AUX-R
VCROUT-R
TAPEOUT-R
R-OUT
STB
DATA
C716L
10/35
R724L
100
R751L
100K
R733L
100K
IC702-1/2
C719L
10/35
R727L
100
R725L
100
R751R
100K
R733R
100K
IC702-2/2
C719R
10/35
C716R
10/35
R724R
100
R725R
100
R727R
100


6
7
8
9
10
11
A
B
C
D
SUB WOOFER
VCR
TV/DBS
DVD/VDP
VCR OUT
MONITOR OUT
R601 100K
C601 100P
R602 220
C611 10N
C602 47/10
R603 75
C603 47/10
R604 75
C604 47/10
R605 75
R606 68
R607 10K
C605 470/6.3
R608 390
R614 68
R609 10K
C606 470/6.3
R610 390
C613 47N
Q601 KTC3199Y
Q602 KTC3199Y
Q605 DTC114TS
Q606 DTC114TS
R611 3K3
R612 3K3
D601 1SS133T
D602 1SS133T
Q603 DTC114YS
Q604 DTC114YS
C612 47N
R613 10K
C607 100/16
7812
IC602
① VOUT
② S1
③ S2
④ VCR
⑤ GND
⑥ TV/DBS
⑦ +12V
⑧ DVD/VDP
⑨ V.AUX
IC601 LA7952
CN601
TO CPU UNIT
SW_OUT
SW_GND
V_GND
V.AUX
V_GND
+15V
SEL2
SEL1
VIDEO_MUTE
CPU_GND
9K/10K_S/W
SEL1
SEL2
+12V
V_GND
CP651
TO S_VIDEO UNIT
SW601
C608 100P
R616 100
↓ FM:100KHz 75uS AM:10KHz
↑ FM:50KHz 50uS AM:9KHz
VIDEO UNIT
S-VIDEO UNIT
VCR
C651 47/10
R651 75
R654 75
C656 47/10
C652
R669 3K3
C662 47N
R671 75
C665 1/50
LA7952
① VOUT
② S1
③ S2
④ VCR
⑤ GND
⑥ TV/DBS
⑦ +12V
⑧ DVD/VDP
⑨ NC
IC652
O UNIT
R727L 100
R725L 100
C718L 10/35
R728L 100K
R728R 100K
R725R 100
C718R 10/35
R727R 100

TRUE TABLE

| MODE | SEL1 | SEL2 |
|---|---|---|
| V.AUX | L | L |
| DVD/VDP | H | L |
| TV/DBS | L | H |
| VCR | H | H |


VCR IN
VCR OUT
CDR/TAPE IN
CDR/TAPE OUT
L
R
R704L 470
R704R 470
R705L 470
R705R 470
R706L 470
R706R 470
R707L 470
R707R 470
C704L 100P
C704R 100P
C705L 100P
C705R 100P
C706L 100P
C706R 100P
C707L 100P
C707R 100P
R713L 2M2
R713R 2M2
R714L 2M2
R714R 2M2
R715L 2M2
R715R 2M2
R716L 2M2
R716R 2M2
C752 10N
*. C701L/R - C708L/R : E1,E2,C,H,1 ONLY
CLK
DATA
R735 100
R734 100
R736 100
R727R 100
C720L 0.068(M)
R731L 39K
R732L 39K
C721L 0.068(M)
IC703-1/2
R729L 100
C723L 10/35
R728L 39K
C724L 0.01
R728R 39K
C724R 0.01
IC703-2/2
C721R 0.068(M)
R729R 100
C723R 10/35
R732R 39K
R731R 39K
C720R 0.068(M)
CN701
TO CPU UNIT
TUNER_R
GND
TUNER_L
GND
V.AUX_R
GND
V.AUX_L
-15V
+15V
9273_DATA
9273_CLK
9273_CE
HPF_R
GND
HPF_L
GND
R1_OUT
GND
L1_OUT
GND
L2_OUT

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

## WARNING:

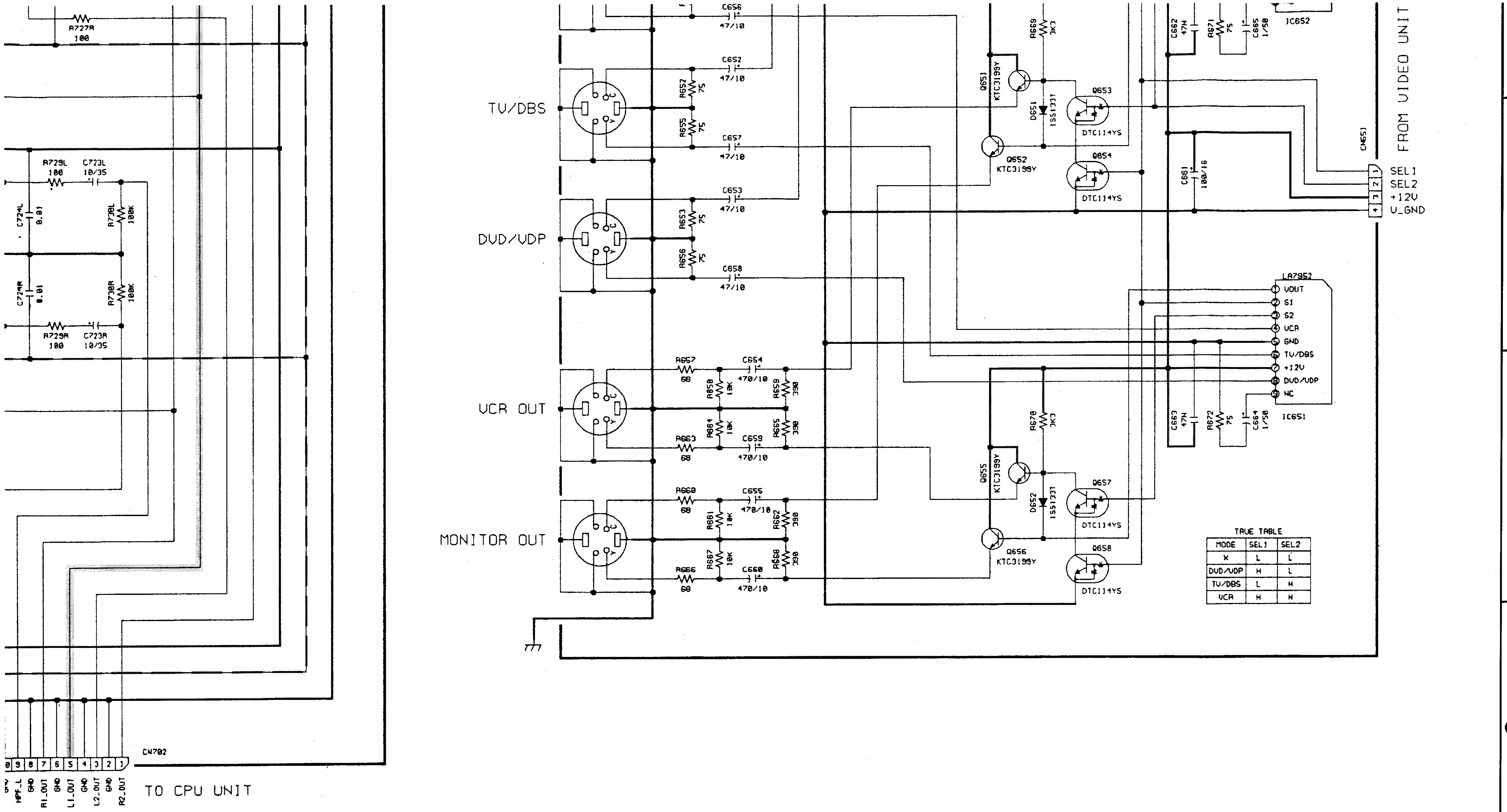
Parts marked with this symbol ⚠ ▨ ha
Use ONLY replacement parts recommer

## CAUTION:

Before returning the unit to the customer
leakage current check or (2) a line to cha
current exceeds 0.5 milliamps, or if the r
of the power card is less than 460kohms

## WARNING:

DO NOT return the unit to the customer
corrected.


R727R
100
R729L
100
C723L
10/35
C724L
0.01
R730L
100K
C724R
0.01
R730R
100K
R729R
100
C723R
10/35
CN702
TO CPU UNIT
HPF_L
GND
R1_OUT
GND
L1_OUT
GND
L2_OUT
GND
R2_OUT
TV/DBS
DVD/VDP
VCR OUT
MONITOR OUT
C656
47/10
C652
47/10
R652
75
R655
75
C657
47/10
C653
47/10
R653
75
R656
75
C658
47/10
R657
68
C654
470/10
R658
10K
R659
390
R664
10K
R665
390
R663
68
C659
470/10
R660
68
C655
470/10
R661
10K
R662
390
R667
10K
R668
390
R666
68
C660
470/10
R669
3K3
Q651
KTC3199Y
D651
1SS133T
Q652
KTC3199Y
Q653
DTC114YS
Q654
DTC114YS
R670
3K3
Q655
KTC3199Y
D652
1SS133T
Q656
KTC3199Y
Q657
DTC114YS
Q658
DTC114YS
C662
47N
R671
75
C665
1/50
IC652
C661
100/16
C663
47N
R672
75
C664
1/50
IC651
LA7952
VOUT
S1
S2
VCR
GND
TV/DBS
+12V
DVD/VDP
NC
CN651
FROM VIDEO UNIT
SEL1
SEL2
+12V
V_GND

TRUE TABLE

| MODE | SEL1 | SEL2 |
|---|---|---|
| X | L | L |
| DVD/VDP | H | L |
| TV/DBS | L | H |
| VCR | H | H |

ymbol ⚠ ▨ have critical characteristics.
parts recommended by the manufacture.

it to the customer, make sure you make either (1) a
or (2) a line to chassis resistance check. If the leakage
liamps, or if the resistance from chassis to either side
s than 460kohms, the unit is defective.

to the customer until the problem is located and

—— + B LINE

— — – B LINE

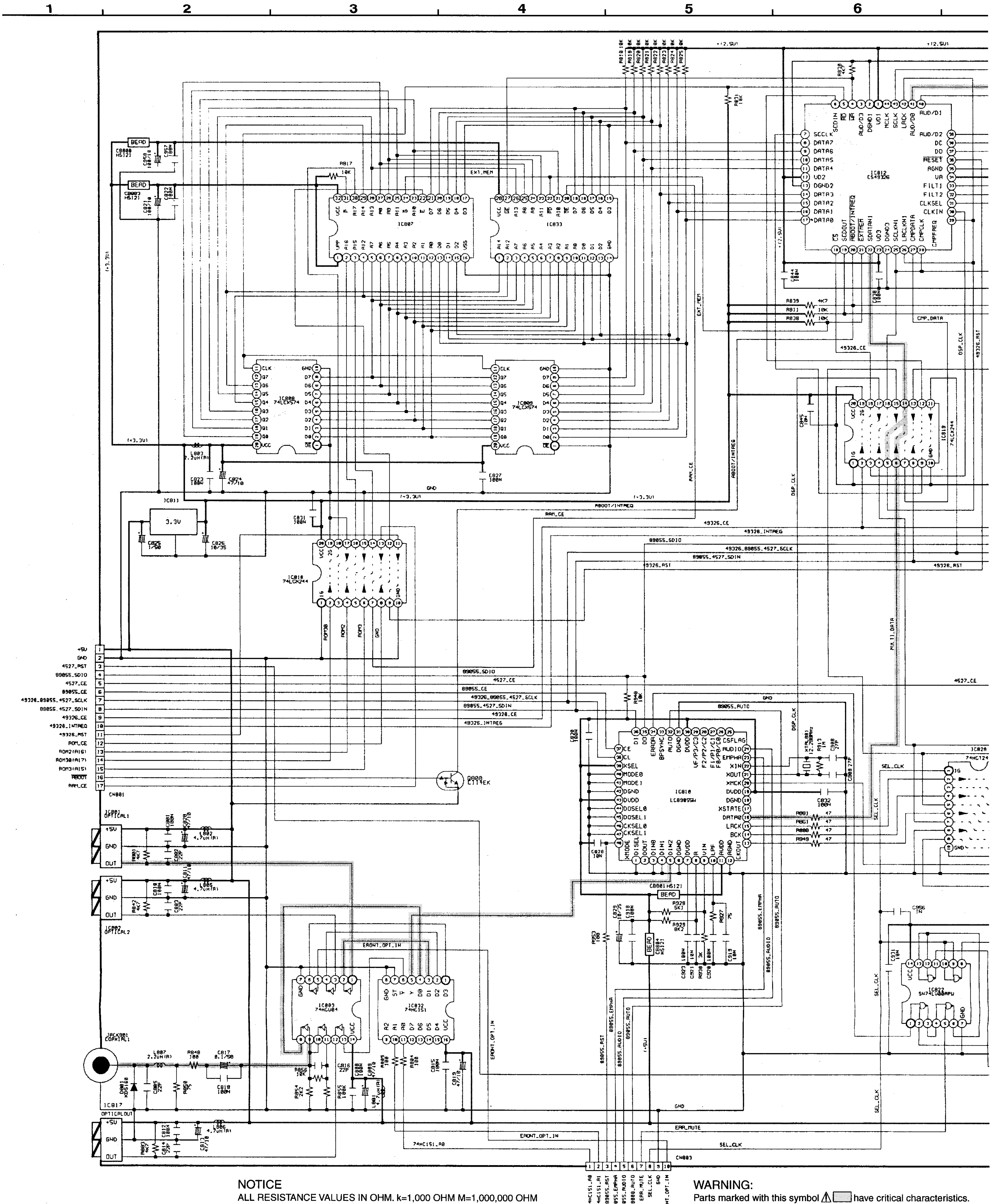
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(1/7)

INPUT P.W.B. UNIT
VIDEO P.W.B. UNIT
S-VIDEO P.W.B. UNIT
FRONT INPUT P.W.B. UNIT
INPUT CNT P.W.B. UNIT

E
F
G
H

# SCHEMATIC DIAGRAMS(2/7)



1
2
3
4
5
6
IC807
IC833
IC808 74LCX574
IC809 74LCX574
IC810 74LCX244
IC811 3.3V
IC812 CS49326
IC819 74LCX244
IC816 LC89055W
IC803 74HCU04
IC832 74HC151
IC822 SN74LC08APW
IC828 74HCT24
CN801
+5V
GND
4527_RST
89055_SDIO
4527_CE
89055_CE
49326_89055_4527_SCLK
89055_4527_SDIN
49326_CE
49326_INTREQ
49326_RST
ROM_CE
ROM2(A16)
ROM3(A17)
ROM3(A15)
RBOOT
RAM_CE
IC801 OPTICAL1
IC802 OPTICAL2
IC817 OPTICAL OUT
JACK801 COAXIAL1
Q808
EXT_MEM
RAM_CE
RBOOT/INTREQ
DSP_CLK
MIX_11_DATA
CMP_DATA
SEL_CLK
FRONT_OPT_IN
ERR_MUTE
74HC151_A0
CN803
74HC151_A0
74HC151_A1
89055_RST
89055_EMPHA
89055_AUDIO
S9088_AUTO
ERR_MUTE
SEL_CLK
GND
FRONT_OPT_IN
BEAD
+12.5V
+3.3V

NOTICE
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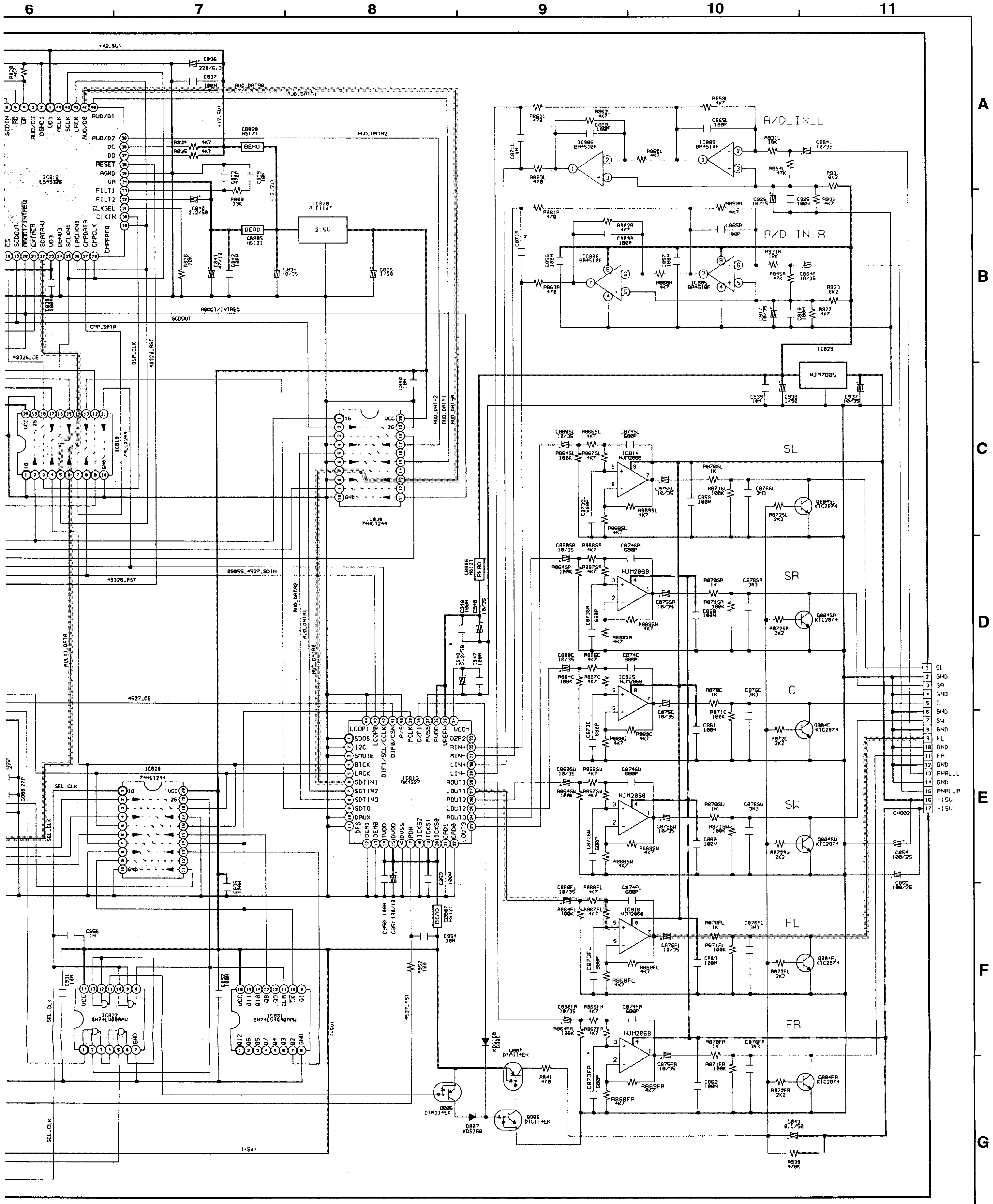
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (
leakage current check or (2) a line to chassis resistance check. If the le
current exceeds 0.5 milliamps, or if the resistance from chassis to eithe
of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located an
corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
IC812
CS49326
IC820
AME1117
2.5V
BEAD
IC819
74LCX244
IC830
74HC1244
IC828
74HC1244
IC813
AK4527
IC827
SN74LV08APW
IC831
SN74LV4040APW
AUD_DATA0
AUD_DATA1
AUD_DATA2
ABOOT/INTREQ
SCDOUT
CMP_DATA
DSP_CLK
49326_RST
49326_CE
89055_4527_SDIN
4527_CE
4527_RST
MULTI_DATA
SEL.CLK
A/D_IN_L
A/D_IN_R
IC806
BA4510F
IC805
BA4510F
IC829
NJM7805
IC814
NJM2068
IC815
NJM2068
IC816
NJM2068
NJM2068
SL
SR
C
SW
FL
FR
KTC2874
Q805
DTA114EK
Q806
DTC114EK
Q807
DTA114EK
D807
KDS160
1 SL
2 GND
3 SR
4 GND
5 C
6 GND
7 SW
8 GND
9 FL
10 GND
11 FR
12 GND
13 ANAL_L
14 GND
15 ANAL_R
16 +15V
17 -15V
CN902
(+5V)
+12.5V

▨ have critical characteristics.
ommended by the manufacture.

stomer, make sure you make either (1) a
 to chassis resistance check. If the leakage
 if the resistance from chassis to either side
kohms, the unit is defective.

*stomer until the problem is located and*

———— + B LINE

— — — — – B LINE

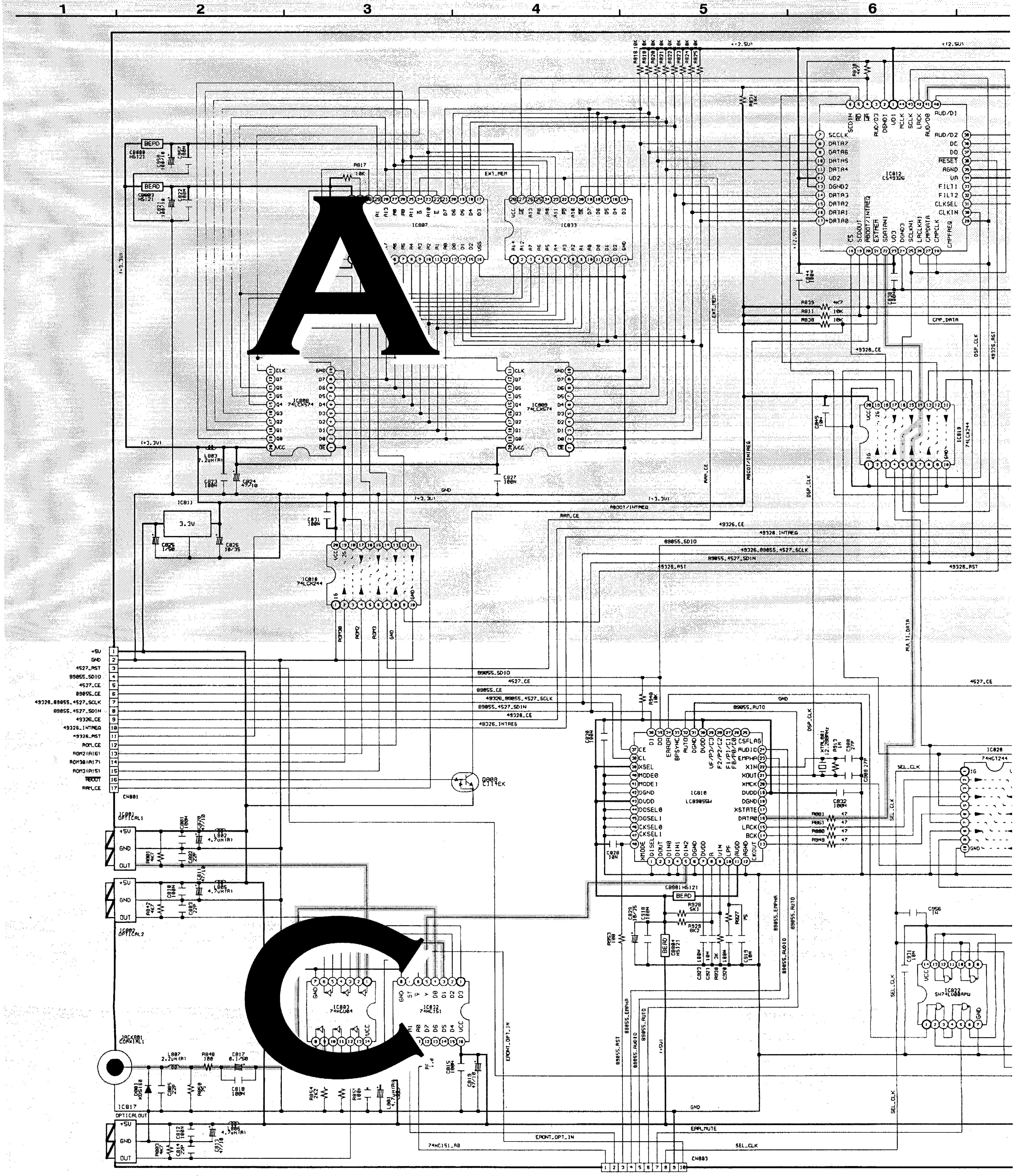
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(2/7)

DSP P.W.B. UNIT

H

# SCHEMATIC DIAGRAMS(2/7)

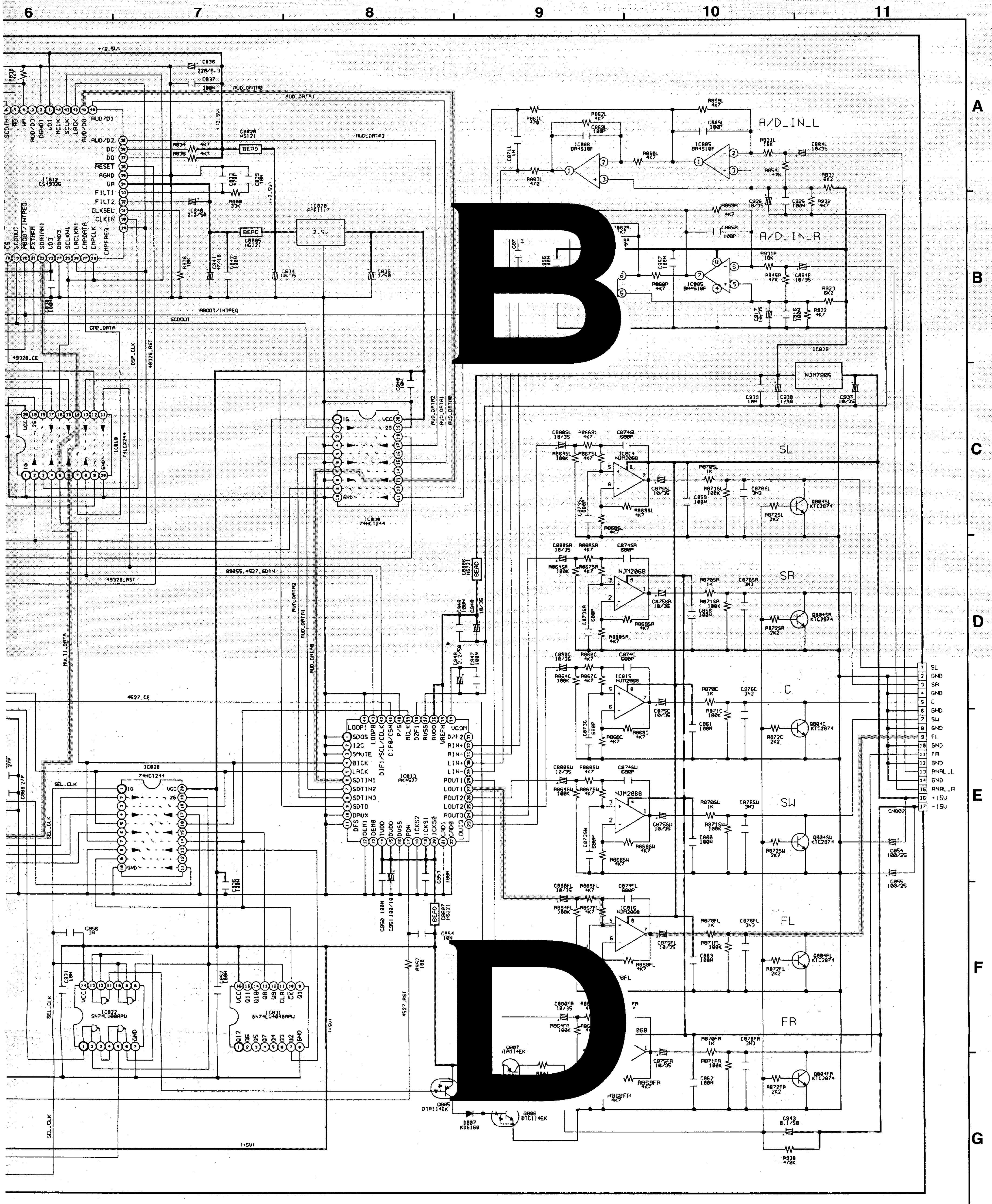

1
2
3
4
5
6
A
C
IC807
IC833
IC808 74LCX574
IC809 74LCX574
IC812 CS4932G
IC816 74LCX244
IC819 74LCX244
IC810 LC89055W
IC803 74HCU04
IC832 74HC151
IC822 SN74LC00APW
IC828 74HC1244
IC811 3.3V
CN801
CN803
IC801 OPTICAL1
IC802 OPTICAL2
IC817 OPTICALOUT
JACK801 COAXIAL1
Q800 LT114EK
XTAL801
+5V
GND
4527_RST
89055_SDIO
4527_CE
89055_CE
49328_89055_4527_SCLK
89055_4527_SDIN
49326_CE
49326_INTREQ
49326_RST
ROM_CE
ROM2(A16)
ROM30(A17)
ROM31(A15)
ABOOT
RAM_CE
EXT_MEM
CMP_DATA
DSP_CLK
MULTI_DATA
SEL_CLK
EAR_MUTE
FRONT_OPT_IN
74HC151_A0
74HC151_A1
89055_RST
89055_EMPHA
89055_AUDIO
58888_AUTO
EAR_MUTE
SEL_CLK
GND
FRONT_OPT_IN
BEAD

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) leakage current check or (2) a line to chassis resistance check. If the lea current exceeds 0.5 milliamps, or if the resistance from chassis to either of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
B
D
IC012 CS4932G
IC020 AME1117
2.5V
BEAD
IC019 74LCX244
IC030 74HC1244
IC028 74HC1244
IC013 AK4527
IC022 SN74LV00APW
IC031 SN74LV4040APW
IC029 NJM7805
IC005 BA4510F
IC006 BA4510F
A/D_IN_L
A/D_IN_R
IC014 NJM2068
IC015 NJM2068
IC016 NJM2068
NJM2068
SL
SR
C
SW
FL
FR
Q804SL KTC2874
Q804SR KTC2874
Q804C KTC2874
Q804SW KTC2874
Q804FL KTC2874
Q804FR KTC2874
Q805 DTA114EK
Q806 DTC114EK
Q807 DTA114EK
D807 KDS160
AUD_DATA0
AUD_DATA1
AUD_DATA2
SCDOUT
ABOOT/INTREQ
CMP_DATA
DSP_CLK
4527_CE
4527_RST
SEL_CLK
MULTI_DATA
49328_CE
49328_RST
89055_4527_SDIN
1 SL
2 GND
3 SR
4 GND
5 C
6 GND
7 SW
8 GND
9 FL
10 GND
11 FR
12 GND
13 ANAL_L
14 GND
15 ANAL_R
16 +15V
17 -15V
CN802
(+5V)
(+2.5V)

▨ have critical characteristics.
ommended by the manufacture.

stomer, make sure you make either (1) a
to chassis resistance check. If the leakage
if the resistance from chassis to either side
*kohms, the unit is defective.*

*stomer until the problem is located and*

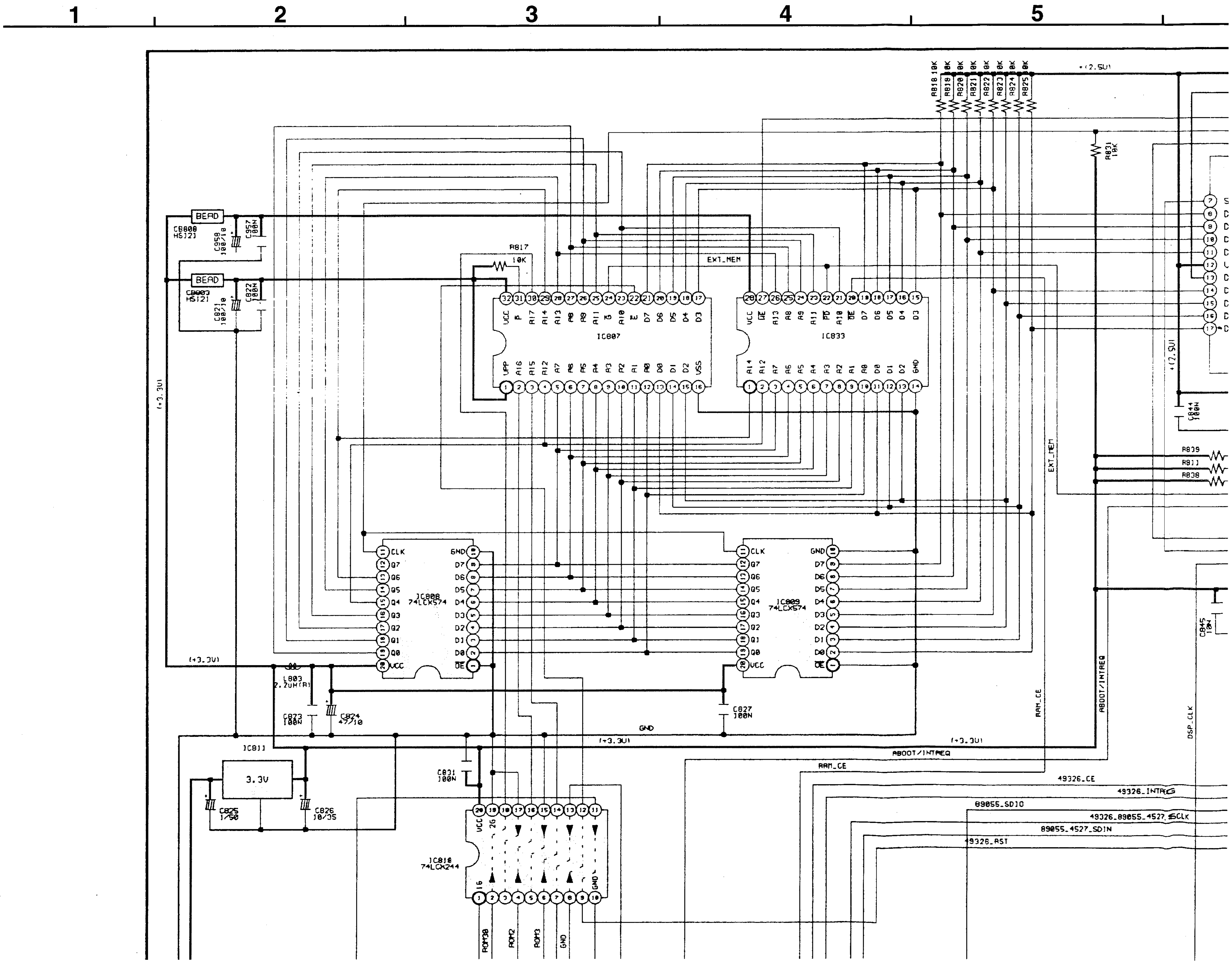
———— + B LINE

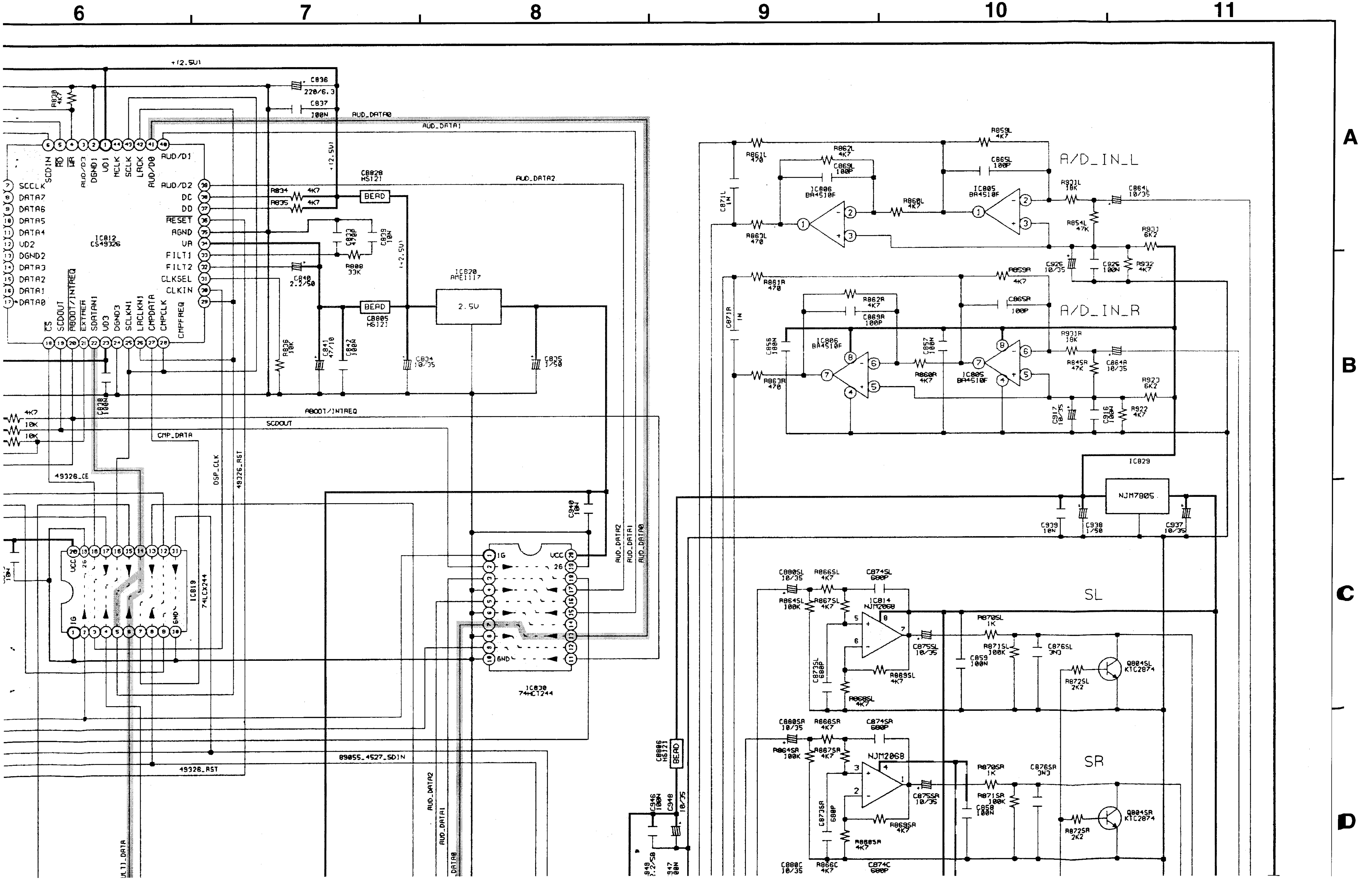
— — — - B LINE

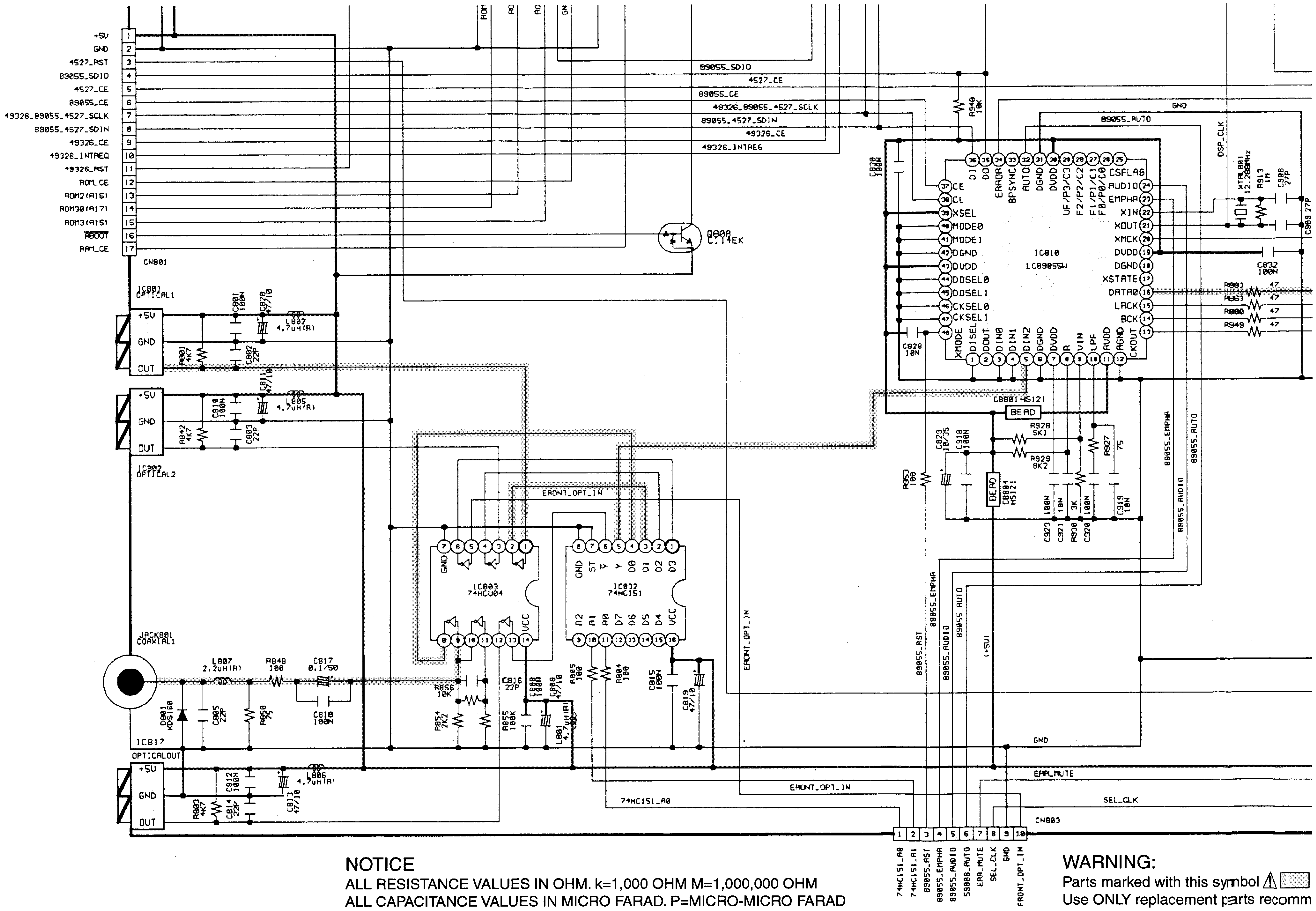
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(2/7)
### DSP P.W.B. UNIT

# SCHEMATIC DIAGRAMS(2/7)


1
2
3
4
5
BEAD
CB808 HS121
C958 100/10
C957 100N
BEAD
CB803 HS121
C821 100/10
C822 100N
(+3.3V)
R817 10K
EXT_MEM
VCC
P
A17
A14
A13
A8
A9
A11
G
A10
E
D7
D6
D5
D4
D3
IC807
VPP
A16
A15
A12
A7
A6
A5
A4
A3
A2
A1
A0
D0
D1
D2
VSS
OE
A13
PD
IC833
A14
GND
R818 10K
R819 10K
R820 10K
R821 10K
R822 10K
R823 10K
R824 10K
R825 10K
+(2.5V)
R831 10K
C844 100N
R839
R811
R838
EXT_MEM
CLK
Q7
Q6
Q5
Q4
Q3
Q2
Q1
Q0
IC808 74LCX574
IC809 74LCX574
L803 2.2UH(R)
C873 100N
C824 47/10
C827 100N
GND
(+3.3V)
ABOOT/INTREQ
RAM_CE
DSP_CLK
C845 10N
IC811
3.3V
C825 1/50
C826 10/35
C831 100N
2G
1G
IC810 74LCX244
ROM30
ROM2
ROM3
GND
49326_CE
49326_INTREQ
89055_SDIO
49326_89055_4527_SCLK
89055_4527_SDIN
49326_RST


6
7
8
9
10
11
A
B
C
D
+(2.5V)
C836 220/6.3
C837 100N
R830 4K7
AUD_DATA0
AUD_DATA1
AUD_DATA2
+(2.5V)
IC812 CS49326
SCCLK
DATA7
DATA6
DATA5
DATA4
VD2
DGND2
DATA3
DATA2
DATA1
DATA0
SCDIN
RD
WR
AUD/D3
DGND1
VD1
MCLK
SCLK
LRCK
AUD/D0
AUD/D1
AUD/D2
DC
DD
RESET
AGND
VA
FILT1
FILT2
CLKSEL
CLKIN
CS
SCDOUT
ABOOT/INTREQ
EXTMEM
SDATAN1
VD3
DGND3
SCLKN1
LRCLKN1
CMPDATA
CMPCLK
CMPFREQ
R834 4K7
R835 4K7
CB828 HS121
BEAD
C833 470P
C839 10N
R808 33K
C840 2.2/50
IC820 AME1117
2.5V
CB805 HS121
BEAD
R836 10K
C841 47/10
C842 100N
C834 10/35
C835 1/50
C838 100N
ABOOT/INTREQ
SCDOUT
CMP_DATA
4K7
10K
10K
49326_CE
DSP_CLK
49326_RST
C940 10N
IC819 74LCX244
VCC
26
1G
GND
IC830 74HCT244
1G
VCC
26
GND
AUD_DATA2
AUD_DATA1
AUD_DATA0
89055_4527_SDIN
49326_RST
AUD_DATA2
AUD_DATA1
DATA0
ULTI_DATA
R859L 4K7
R861L 470
R862L 4K7
C869L 100P
C865L 100P
A/D_IN_L
C871L 1N
IC806 BA4510F
R860L 4K7
IC805 BA4510F
R931L 10K
C864L 10/35
R863L 470
R854L 47K
R933 6K2
C926 10/35
C925 100N
R932 4K7
R861R 470
R859R 4K7
R862R 4K7
C865R 100P
A/D_IN_R
C869R 100P
C871R 1N
C856 100N
IC806 BA4510F
C857 100N
IC805 BA4510F
R931R 10K
R860R 4K7
R854R 47K
C864R 10/35
R863R 470
R923 6K2
C917 10/35
C916 100N
R922 4K7
IC829
NJM7805
C939 10N
C938 1/50
C937 10/35
C880SL 10/35
R866SL 4K7
C874SL 680P
R864SL 100K
R867SL 4K7
IC814 NJM2068
SL
R870SL 1K
C875SL 10/35
C859 100N
R871SL 100K
C876SL 3N3
C873SL 680P
R869SL 4K7
R868SL 4K7
R872SL 2K2
Q804SL KTC2874
C880SR 10/35
R866SR 4K7
C874SR 680P
R864SR 100K
R875SR 4K7
NJM2068
SR
R870SR 1K
C876SR 3N3
C875SR 10/35
R871SR 100K
C858 100N
C873SR 680P
R869SR 4K7
R868SR 4K7
R872SR 2K2
Q804SR KTC2874
CB806 HS121
BEAD
C946 100N
C948 10/35
C880C 10/35
R866C 4K7
C874C 680P


+5V
GND
4527_RST
89055_SDIO
4527_CE
89055_CE
49326_89055_4527_SCLK
89055_4527_SDIN
49326_CE
49326_INTREQ
49326_RST
ROM_CE
ROM2(A16)
ROM30(A17)
ROM3(A15)
RBOOT
RAM_CE
CN801
Q808
CJ14EK
IC801
OPTICAL1
IC802
OPTICAL2
IC817
OPTICALOUT
OUT
R801 4K7
R842 4K7
R803 4K7
C801 100N
C802 22P
C820 47/10
L802 4.7uH(R)
C810 100N
C803 22P
C811 47/10
L805 4.7uH(R)
C812 100N
C814 22P
C813 47/10
L806 4.7uH(R)
JACK801
COAXIAL1
D801 KDS160
C805 22P
L807 2.2uH(R)
R848 100
R850 75
C817 0.1/50
C818 100N
R856 10K
R854 2K2
R855 100K
C816 22P
C808 100N
C809 47/10
L801 4.7uH(R)
R805 100
R804 100
C815 100N
C819 47/10
IC803
74HCU04
IC832
74HC151
GND
VCC
ST
Y
D0
D1
D2
D3
A2
A1
A0
D7
D6
D5
D4
FRONT_OPT_IN
74HC151_A0
ERR_MUTE
SEL_CLK
R940 10K
C830 100N
IC810
LC89055W
CE
CL
XSEL
MODE0
MODE1
DGND
DVDD
DDSEL0
DDSEL1
CKSEL0
CKSEL1
XMODE
DI
DO
ERROR
BPSYNC
AUTO
UF/P2/C3
F2/P2/C2
F1/P1/C1
F0/P0/C0
CSFLAG
AUDIO
EMPHA
XIN
XOUT
XMCK
XSTATE
DATA0
LRCK
BCK
CKOUT
DISEL
DOUT
DIN0
DIN1
DIN2
R
VIN
LPF
AVDD
AGND
C828 10N
89055_AUTO
DSP_CLK
XTAL801 12.288MHz
R913 1M
C908 27P
C909 27P
C832 100N
R881 47
R863 47
R880 47
R949 47
CB801 HS121
BEAD
R928 5K1
R929 8K2
R927 75
C829 10/35
C918 100N
R953 100
CB804 HS121
C923 100N
C921 10N
R930 3K
C920 100N
C919 10N
89055_EMPHA
89055_AUDIO
89055_RST
(+5V)
CN803
74HC151_A1
89055_EMPHA
58088_AUDIO
FRONT_OPT_IN

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

## WARNING:

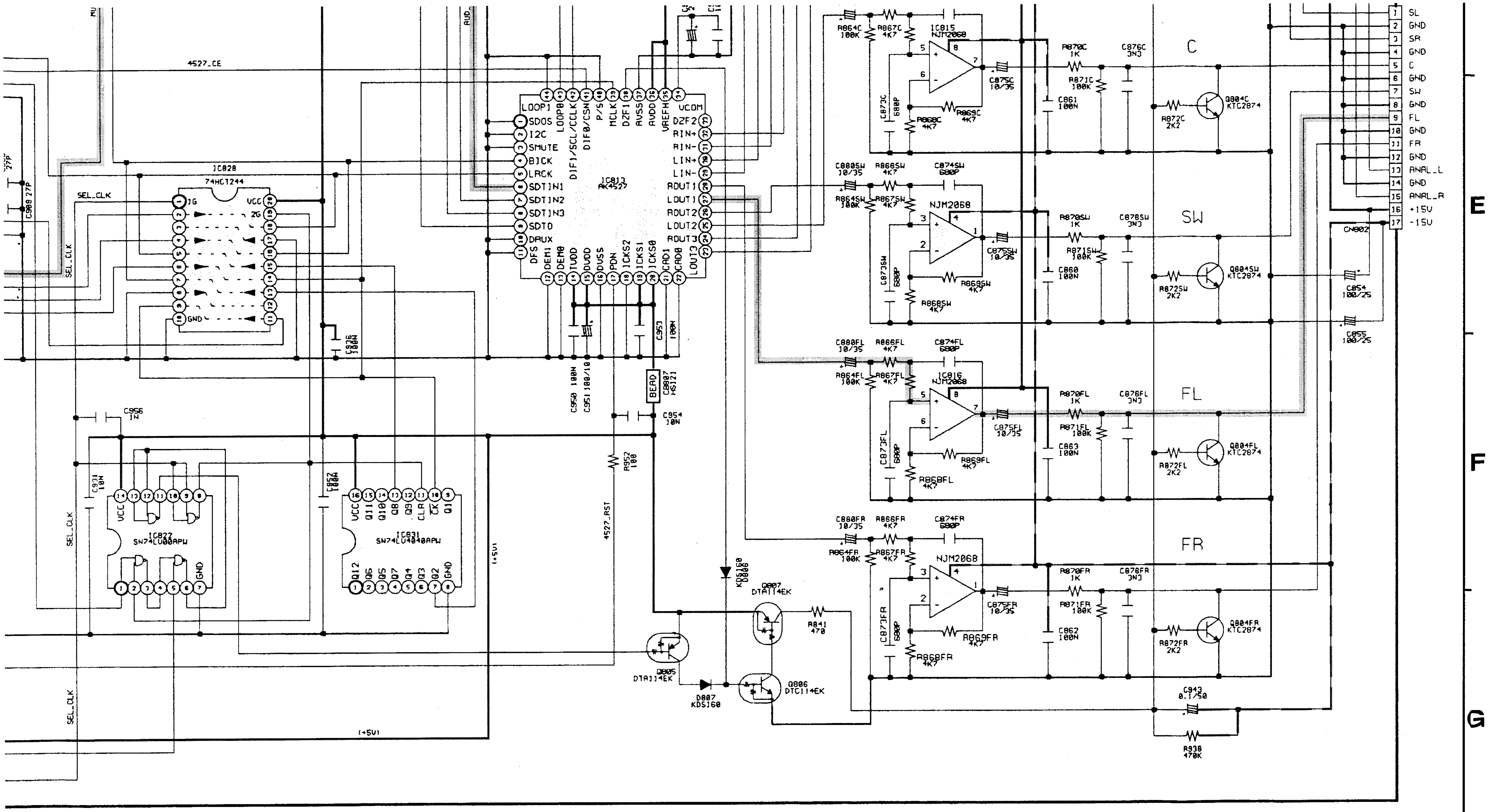
Parts marked with this symbol ⚠
Use ONLY replacement parts recomm

## CAUTION:

Before returning the unit to the custom
leakage current check or (2) a line to c
current exceeds 0.5 milliamps, or if the
of the power card is less than 460kohm

## WARNING:

DO NOT return the unit to the custome
corrected.


4527_CE
IC828
74HCT244
SEL_CLK
1G
2G
VCC
GND
IC813
AK4527
LOOP1
SDOS
I2C
SMUTE
BICK
LRCK
SDTIN1
SDTIN2
SDTIN3
SDTO
DAUX
DFS
DEM1
DEM0
TVDD
DVDD
DVSS
PDN
ICKS2
ICKS1
ICKS0
CAD1
CAD0
LOUT3
ROUT3
LOUT2
ROUT2
LOUT1
ROUT1
LIN-
LIN+
RIN-
RIN+
DZF2
VCOM
VREFH
AVDD
AVSS
DZF1
MCLK
P/S
DIF0/CSN
DIF1/SCL/CCLK
LOOP0
C936 100N
C950 100N
C951 100/10
C953 100N
C807 HS121
BEAD
C954 10N
C956 1N
C931 10N
C952 100N
IC827
SN74LV00APW
IC831
SN74LV4040APW
VCC
Q11
Q10
Q8
Q9
CLR
CK
Q1
Q12
Q6
Q5
Q7
Q4
Q3
Q2
GND
R952 100
4527_RST
(+5V)
D808 KDS160
Q807 DTA114EK
R841 470
Q805 DTA114EK
D807 KDS160
Q806 DTC114EK
R864C 100K
R867C 4K7
IC815 NJM2068
C873C 680P
R868C 4K7
R869C 4K7
C875C 10/35
C861 100N
R870C 1K
R871C 100K
C876C 3N3
R872C 2K2
Q804C KTC2874
C
C880SW 10/35
R866SW 4K7
C874SW 680P
R864SW 100K
R867SW 4K7
NJM2068
C873SW 680P
R868SW 4K7
R869SW 4K7
C875SW 10/35
C860 100N
R870SW 1K
R871SW 100K
C878SW 3N3
R872SW 2K2
Q804SW KTC2874
SW
C880FL 10/35
R866FL 4K7
C874FL 680P
R864FL 100K
R867FL 4K7
IC816 NJM2068
C873FL 680P
R868FL 4K7
R869FL 4K7
C875FL 10/35
C863 100N
R870FL 1K
R871FL 100K
C876FL 3N3
R872FL 2K2
Q804FL KTC2874
FL
C880FR 10/35
R866FR 4K7
C874FR 680P
R864FR 100K
R867FR 4K7
NJM2068
C873FR 680P
R868FR 4K7
R869FR 4K7
C875FR 10/35
C862 100N
R870FR 1K
R871FR 100K
C878FR 3N3
R872FR 2K2
Q804FR KTC2874
FR
C943 0.1/50
R938 470K
C854 100/25
C855 100/25
CN802
1 SL
2 GND
3 SR
4 GND
5 C
6 GND
7 SW
8 GND
9 FL
10 GND
11 FR
12 GND
13 ANAL_L
14 GND
15 ANAL_R
16 +15V
17 -15V
E
F
G

▨ have critical characteristics.
mmended by the manufacture.

stomer, make sure you make either (1) a
to chassis resistance check. If the leakage
if the resistance from chassis to either side
kohms, the unit is defective.

tomer until the problem is located and

——————— + B LINE

— — — — — B LINE

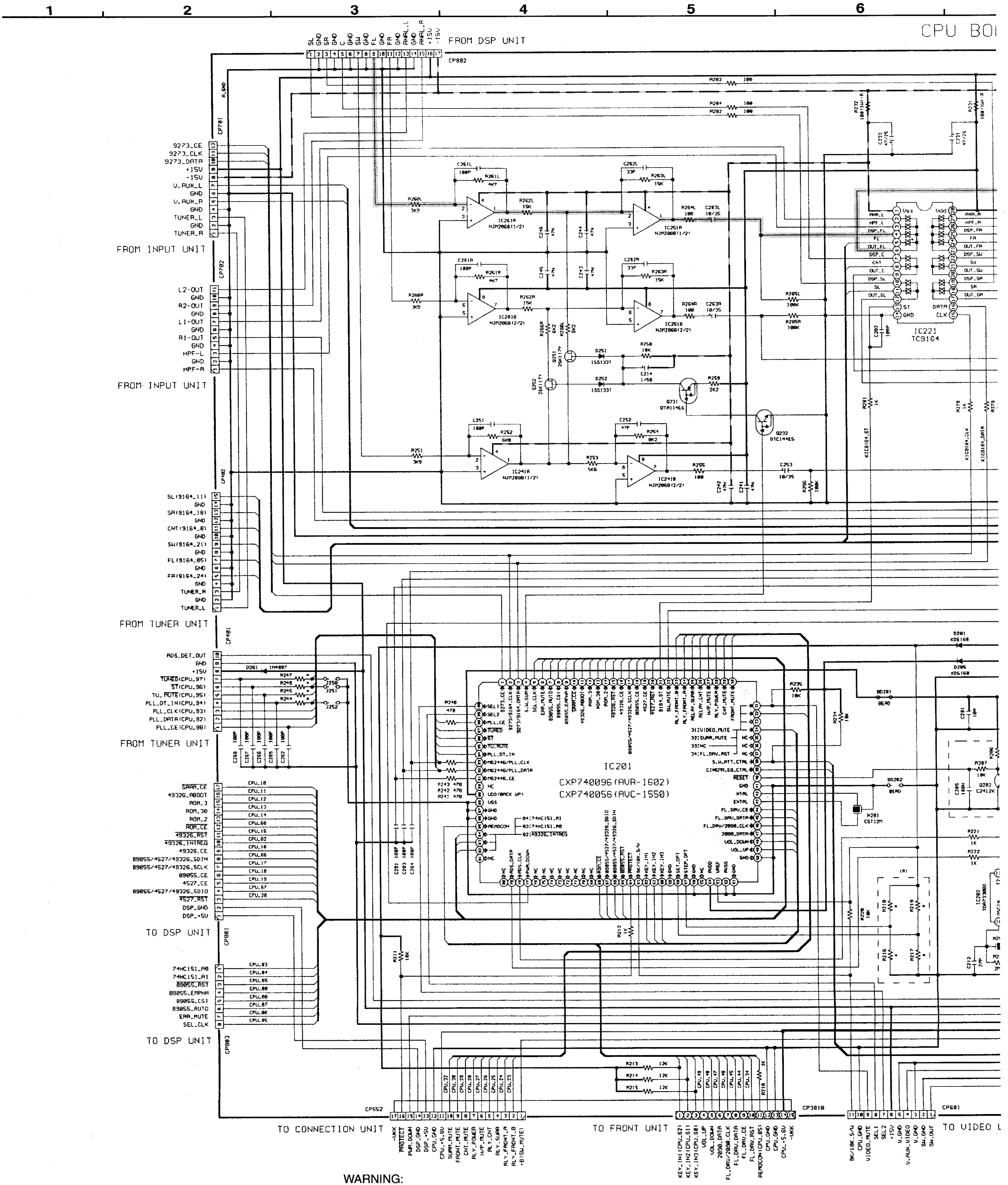
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(2/7)

DSP P.W.B. UNIT

H

# SCHEMATIC DIAGRAMS(3/7)

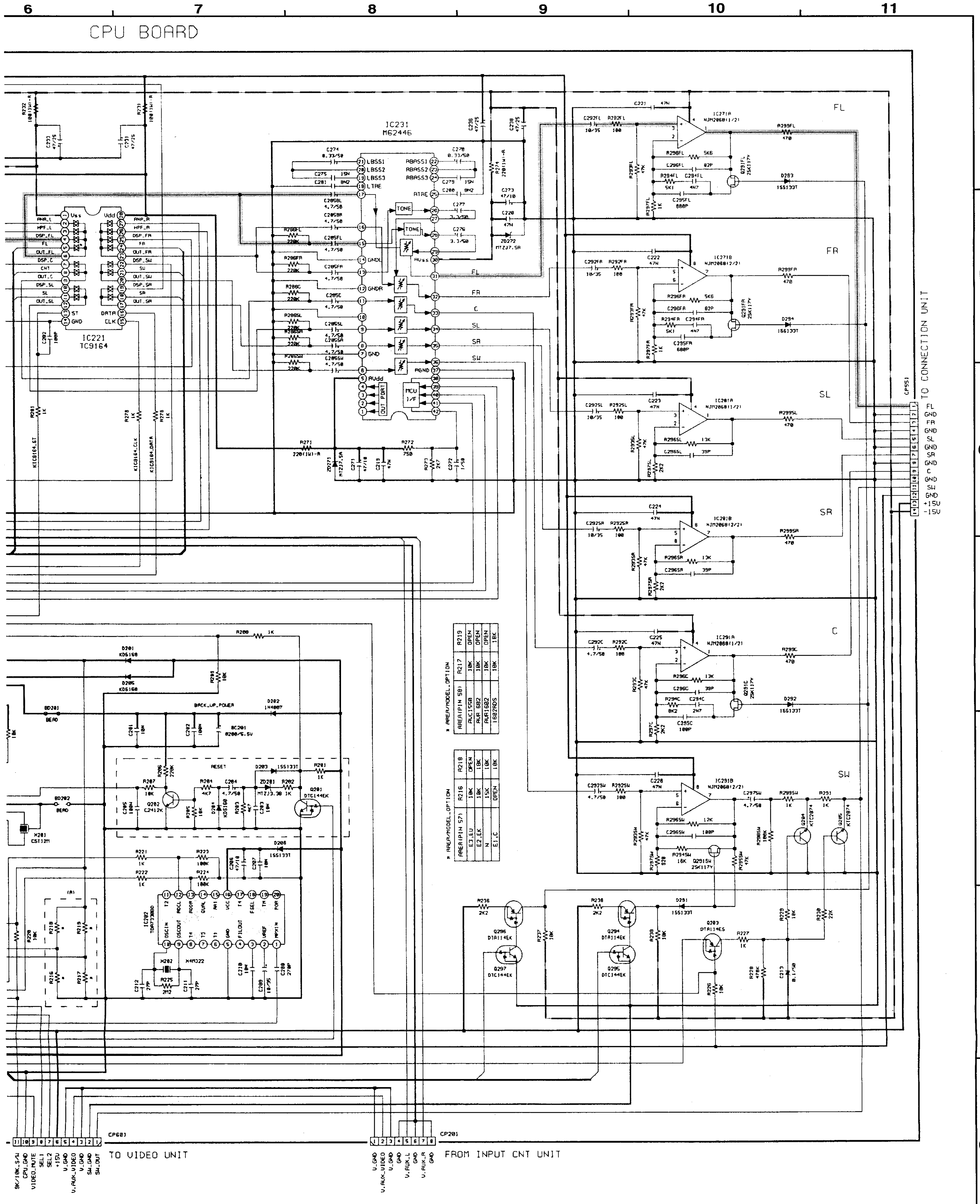

1
2
3
4
5
6
CPU BO
FROM DSP UNIT
SL
GND
SR
GND
C
GND
SW
GND
FL
GND
FR
GND
ANAL_L
GND
ANAL_R
+15V
-15V
CP802
CP701
A_GND
9273_CE
9273_CLK
9273_DATA
+15V
-15V
V.AUX_L
GND
V.AUX_R
GND
TUNER_L
GND
TUNER_R
FROM INPUT UNIT
CP702
L2-OUT
GND
R2-OUT
GND
L1-OUT
GND
R1-OUT
GND
HPF-L
GND
HPF-R
FROM INPUT UNIT
CP402
SL(9164_11)
GND
SR(9164_10)
GND
CNT(9164_8)
GND
SW(9164_21)
GND
FL(9164_05)
GND
FR(9164_24)
GND
TUNER_R
GND
TUNER_L
FROM TUNER UNIT
CP401
RDS_DET_OUT
GND
+15V
TUNED(CPU_97)
ST(CPU_96)
TU_MUTE(CPU_95)
PLL_DT_IN(CPU_94)
PLL_CLK(CPU_93)
PLL_DATA(CPU_92)
PLL_CE(CPU_98)
FROM TUNER UNIT
SARR_CE
49326_ABOOT
ROM_3
ROM_30
ROM_2
ROM_CE
49326_RST
49326_INTREQ
49326_CE
89055/4527/49326_SDIN
89055/4527/49326_SCLK
89055_CE
4527_CE
89055/4527/49326_SDIO
4527_RST
DSP_GND
DSP_+5V
TO DSP UNIT
CP801
74HC151_A0
74HC151_A1
89055_RST
89055_EMPHA
89055_CS1
89055_AUTO
EAR_MUTE
SEL_CLK
TO DSP UNIT
CP803
IC261A
NJM2068(1/2)
IC261B
NJM2068(2/2)
IC251A
NJM2068(1/2)
IC251B
NJM2068(2/2)
IC241A
NJM2068(1/2)
IC241B
NJM2068(2/2)
Q251
2SK117Y
Q252
2SK117Y
Q231
DTA114ES
Q232
DTC144ES
D251
1SS133T
D252
1SS133T
D261
1N4007
IC221
TC9164
IC201
CXP740096(AVR-1602)
CXP740056(AVC-1550)
X201
CST12M
D201
KDS160
D205
KDS160
BD201
BEAD
BD202
BEAD
Q202
C2412K
IC202
CP552
TO CONNECTION UNIT
-VKK
PROTECT
PWR_DOWN
DSP_+5V
CPU_GND
CPU_+5.6V
SURR_MUTE
CNT_MUTE
RLY_POWER
H/P_MUTE
RLY_CNT
RLY_SURR
RLY_FRONT_A
RLY_FRONT_B
+B(SW_MUTE)
CP301B
TO FRONT UNIT
KEY_IN1(CPU_62)
KEY_IN2(CPU_61)
KEY_IN3(CPU_60)
VOL_UP
VOL_DOWN
2090_DATA
2090_CLK
FL_DRV/2090_DATA
FL_DRV_CE
FL_DRV_RST
REMOCON(CPU_85)
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
CP601
TO VIDEO U
9K/10K_S/W
CPU_GND
VIDEO_MUTE
SEL1
SEL2
+15V
V_GND
V.AUX_VIDEO
SW_GND
SW_OUT

WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MI
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SI
CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT
NOTICE.


6
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11
A
B
C
D
E
F
G
CPU BOARD
IC231
M62446
IC221
TC9164
IC271A NJM2068(1/2)
IC271B NJM2068(2/2)
IC281A NJM2068(1/2)
IC281B NJM2068(2/2)
IC291A NJM2068(1/2)
IC291B NJM2068(2/2)
IC202 TDA7330BD
FL
FR
SL
SR
C
SW
TONE
MCU I/F
OUT PORT
RESET
BACK_UP_POWER
BC201 0.1F/5.5V
X201 CST12M
X202 X4M322
Q201 DTC144EK
Q202 C2412K
Q203 DTA114ES
Q204 KTC2874
Q205 KTC2874
Q294 DTA114EK
Q295 DTC144EK
Q296 DTA114EK
Q297 DTC144EK
Q291FL 2SK117Y
Q291FR 2SK117Y
Q291C 2SK117Y
Q291SW 2SK117Y
CP551
TO CONNECTION UNIT
FL GND FR GND SL GND SR GND C GND SW GND +15V -15V
CP601
TO VIDEO UNIT
CP201
FROM INPUT CNT UNIT
V.GND
V.AUX_VIDEO
V.GND
V.AUX_L
GND
V.AUX_R
GND
SW.OUT
SW.GND
V.GND
V.AUX_VIDEO
V.GND
+15V
SEL2
SEL1
VIDEO_MUTE
CPU_GND

* AREA/MODEL_OPTION

| AREA(PIN 58) | R217 | R219 |
|---|---|---|
| AVC1550 | 10K | OPEN |
| AVR 682 | 10K | OPEN |
| AVR1602 | 10K | OPEN |
| 1602RDS | 10K | 10K |

* AREA/MODEL_OPTION

| AREA(PIN 57) | R216 | R218 |
|---|---|---|
| E3,EU | 10K | OPEN |
| E2,EK | 10K | 10K |
| N | 15K | 10K |
| E1,C | OPEN | 10K |

———— + B LINE

— — — — - B LINE

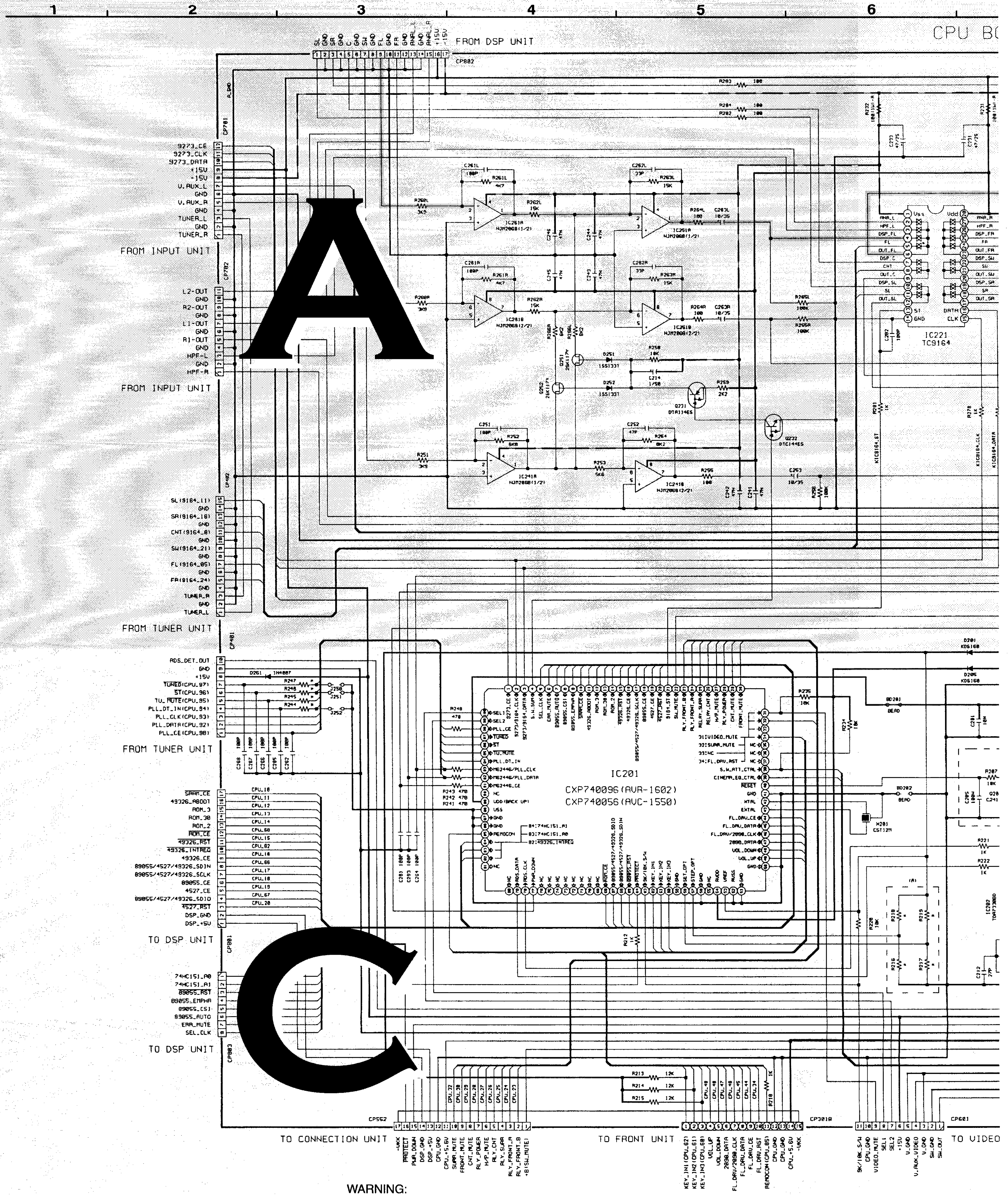
▒▒▒▒ SIGNAL LINE

ES IN OHM. k=1,000 OHM M=1,000,000 OHM
UES IN MICRO FARAD. P=MICRO-MICRO FARAD
URRENT ARE MEASUERD AT MO SIGNAL INPUT

RE SUBJECT TO CHANGE WITHOUT PRIOR

## SCHEMATIC DIAGRAMS(3/7)
CPU P.W.B. UNIT

## SCHEMATIC DIAGRAMS(3/7)


1
2
3
4
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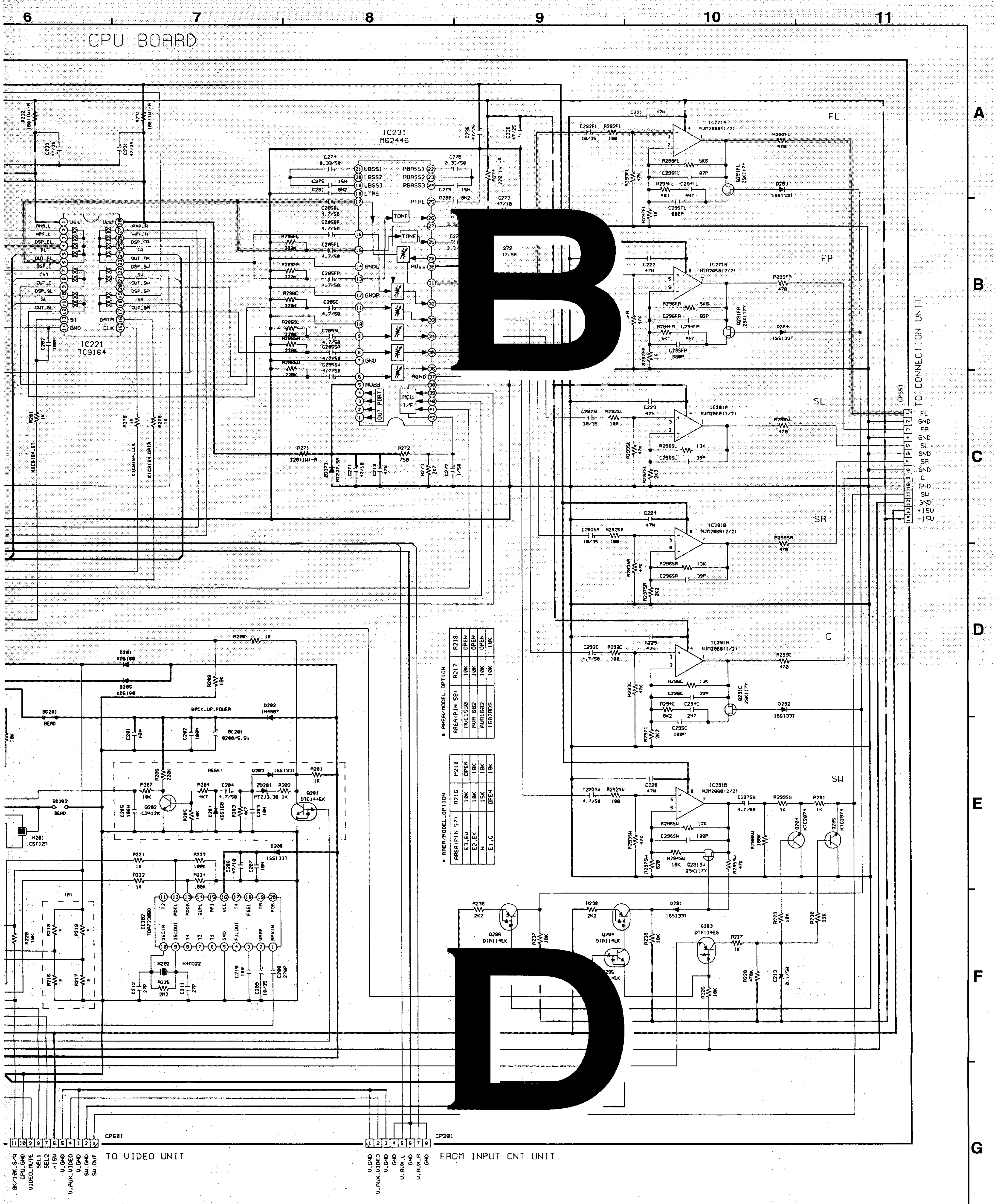
6
CPU BO
FROM DSP UNIT
CP802
SL
GND
SR
GND
C
GND
SW
GND
FL
GND
FR
GND
ANAL_L
GND
ANAL_R
+15V
-15V
CP701
9273_CE
9273_CLK
9273_DATA
+15V
-15V
V.AUX_L
GND
V.AUX_R
GND
TUNER_L
GND
TUNER_R
FROM INPUT UNIT
CP702
L2-OUT
GND
R2-OUT
GND
L1-OUT
GND
R1-OUT
GND
HPF-L
GND
HPF-R
FROM INPUT UNIT
CP402
SL(9164_11)
GND
SR(9164_18)
GND
CNT(9164_8)
GND
SW(9164_21)
GND
FL(9164_05)
GND
FR(9164_24)
GND
TUNER_R
GND
TUNER_L
FROM TUNER UNIT
CP401
RDS_DET_OUT
GND
+15V
TUNED(CPU_97)
ST(CPU_96)
TU_MUTE(CPU_95)
PLL_DT_IN(CPU_94)
PLL_CLK(CPU_93)
PLL_DATA(CPU_92)
PLL_CE(CPU_98)
FROM TUNER UNIT
CP801
SRAM_CE
49326_A0
ROM_3
ROM_30
ROM_2
ROM_CE
49326_RST
49326_INTREQ
49326_CE
89055/4527/49326_SDIN
89055/4527/49326_SCLK
89055_CE
4527_CE
89055/4527/49326_SDIO
4527_RST
DSP_GND
DSP_+5V
TO DSP UNIT
CP803
74HC151_A0
74HC151_A1
89055_RST
89055_EMPHA
89055_CS
89055_AUTO
ERR_MUTE
SEL_CLK
TO DSP UNIT
IC261A NJM2068(1/2)
IC261B NJM2068(2/2)
IC251A NJM2068(1/2)
IC251B NJM2068(2/2)
IC241A NJM2068(1/2)
IC241B NJM2068(2/2)
Q251 2SK117Y
Q252 2SK117Y
Q231 DTA114ES
Q232 DTC144ES
D251 1SS133
D252 1SS133
D261 1N4007
IC221 TC9164
IC201
CXP740096(AVR-1602)
CXP740056(AVC-1550)
X201 CST12M
BD201 BEAD
BD202 BEAD
D201 KDS160
D205 KDS160
IC202 TDA7330B0
A
C
CP552
TO CONNECTION UNIT
-VKK
PROTECT
PWR_DOWN
DSP_GND
DSP_+5V
CPU_GND
CPU_+5.6V
SURR_MUTE
FRONT_MUTE
CNT_MUTE
RLY_POWER
H/P_MUTE
RLY_CNT
RLY_SURR
RLY_FRONT_B
RLY_FRONT_A
+B(SW_MUTE)
CP3010
TO FRONT UNIT
KEY_IN1(CPU_62)
KEY_IN2(CPU_61)
KEY_IN3(CPU_60)
VOL_UP
VOL_DOWN
2098_DATA
FL_DRV/2098_CLK
FL_DRV_CE
FL_DRV_RST
REMOCON(CPU_85)
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
CP601
TO VIDEO
SK/10K_S/W
VIDEO_MUTE
SEL1
SEL2
+15V
V_GND
V.AUX_VIDEO
V_GND
SW_GND
SW_OUT

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,00
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO
CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHO
NOTICE.


6
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A
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C
D
E
F
G
CPU BOARD
IC231
M62446
IC221
TC9164
IC271A
NJM2068(1/2)
IC271B
NJM2068(2/2)
IC281A
NJM2068(1/2)
IC281B
NJM2068(2/2)
IC291A
NJM2068(1/2)
IC291B
NJM2068(2/2)
IC202
TDA7330BD
FL
FR
SL
SR
C
SW
CP551
TO CONNECTION UNIT
FL
GND
FR
GND
SL
GND
SR
GND
C
GND
SW
GND
+15V
-15V
BACK_UP_POWER
RESET
CP601
TO VIDEO UNIT
CP201
FROM INPUT CNT UNIT
B
D

* AREA/MODEL_OPTION

| AREA(PIN 58) | R217 | R219 |
|---|---|---|
| AVC1550 | 10K | OPEN |
| AVR 682 | 10K | OPEN |
| AVR1602 | 10K | OPEN |
| 1602RDS | 10K | 10K |

* AREA/MODEL_OPTION

| AREA(PIN 57) | R216 | R218 |
|---|---|---|
| E3,EU | 10K | OPEN |
| E2,EK | 10K | 10K |
| N | 15K | 10K |
| E1,C | OPEN | 10K |

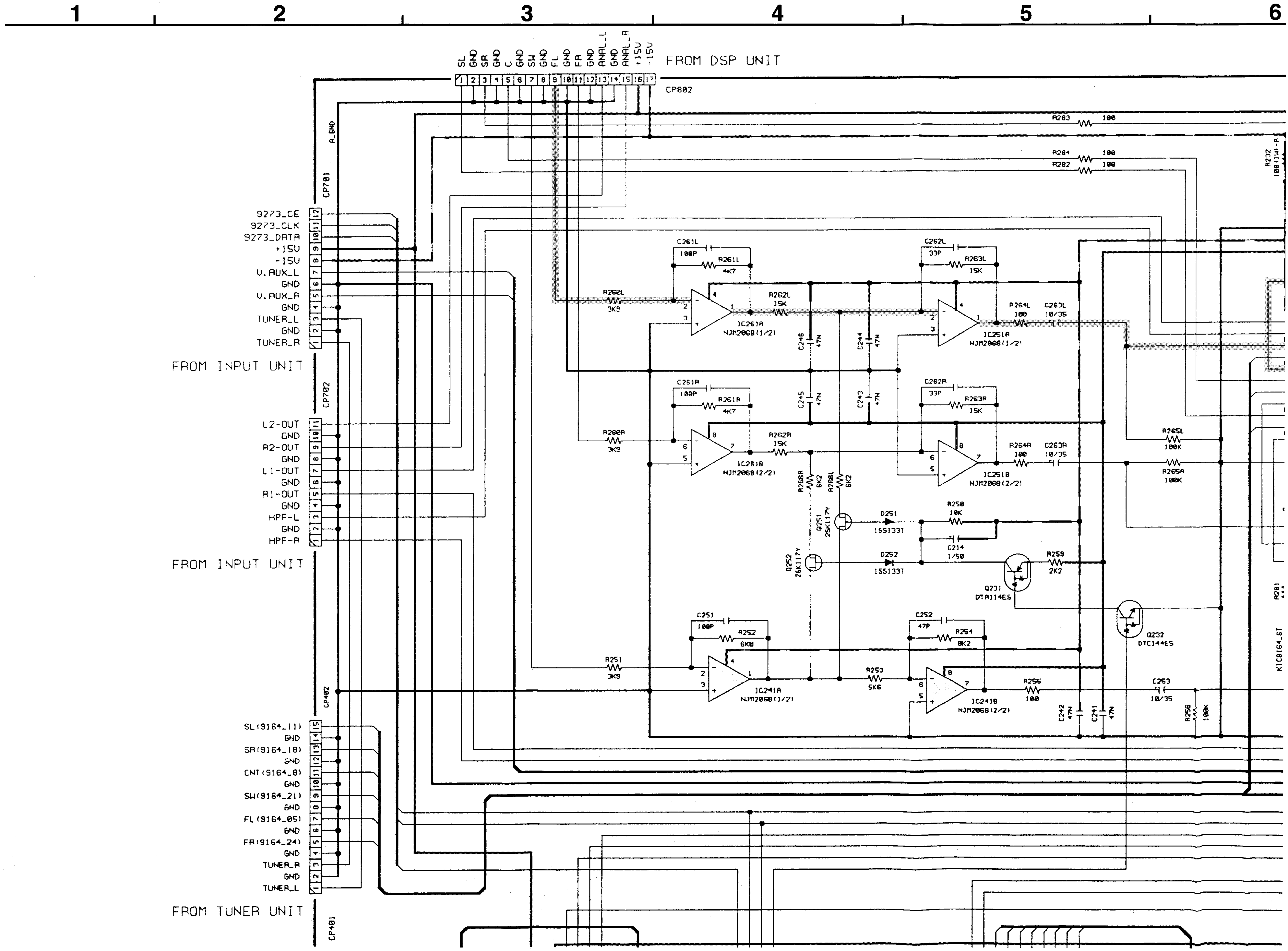
ES IN OHM. k=1,000 OHM M=1,000,000 OHM
UES IN MICRO FARAD. P=MICRO-MICRO FARAD
URRENT ARE MEASUERD AT MO SIGNAL INPUT

RE SUBJECT TO CHANGE WITHOUT PRIOR

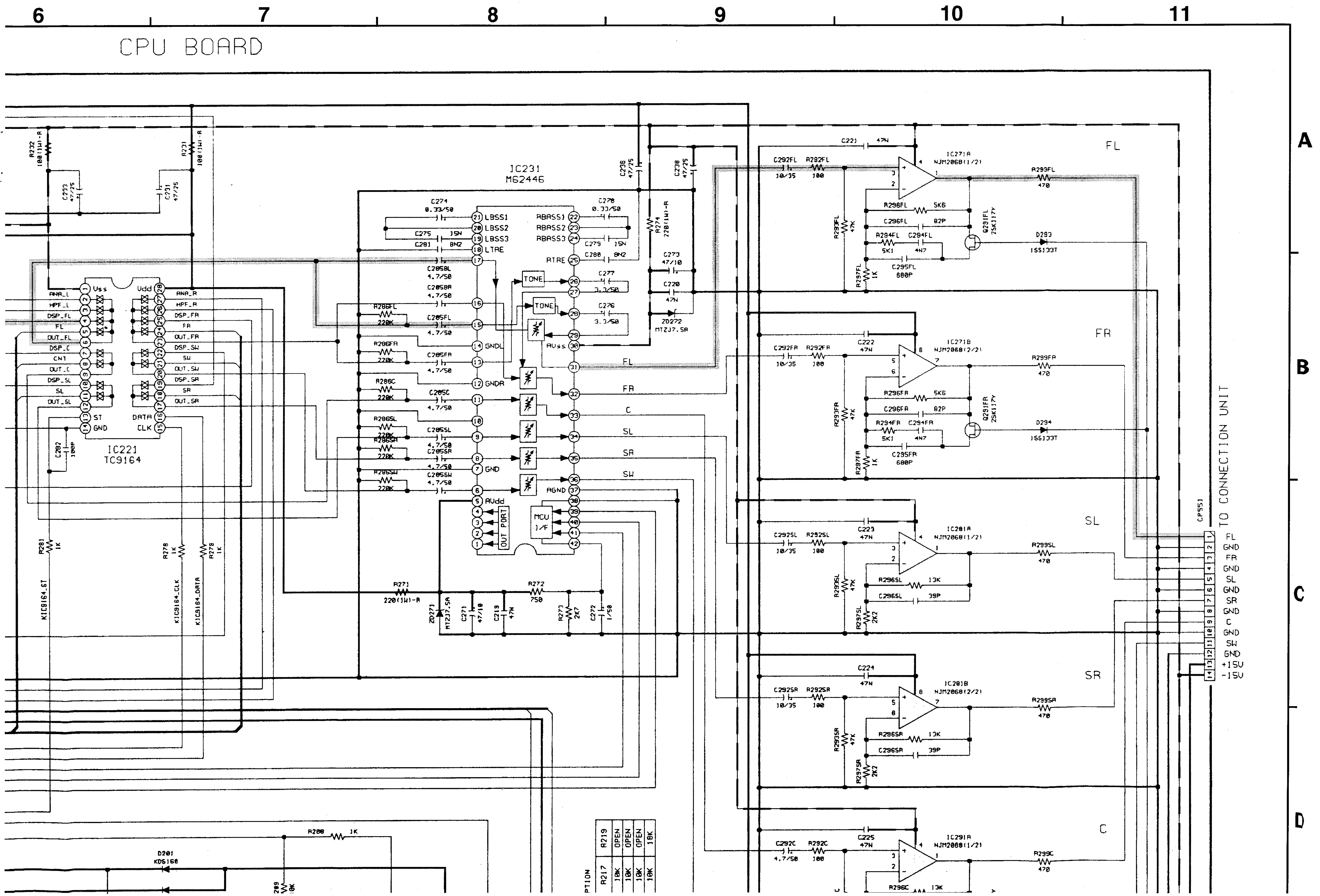
——— +B LINE
— — — -B LINE
▒▒▒ SIGNAL LINE

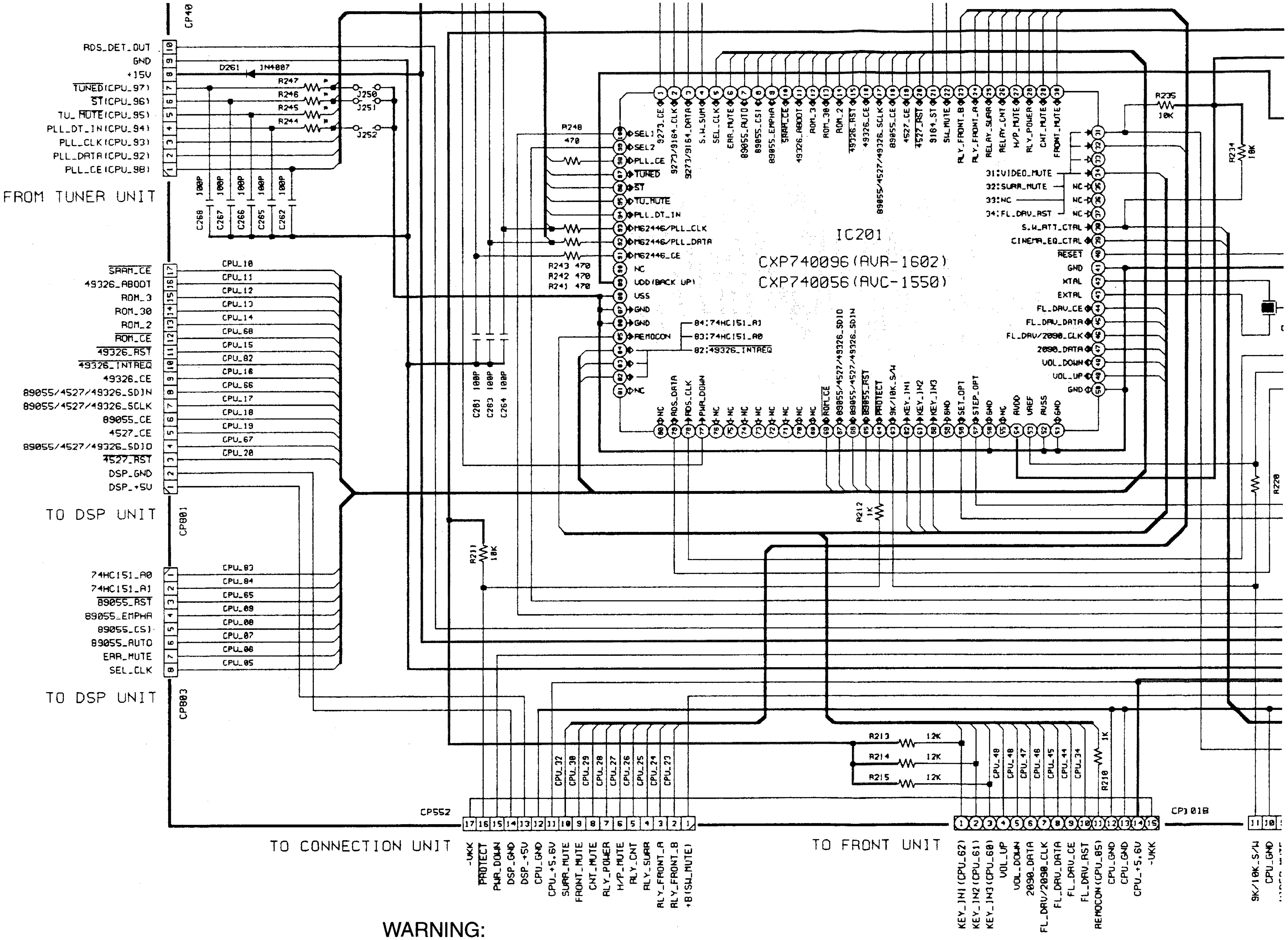
## SCHEMATIC DIAGRAMS(3/7)
CPU P.W.B. UNIT

# SCHEMATIC DIAGRAMS(3/7)



1
2
3
4
5
6
SL
GND
SR
GND
C
GND
SW
GND
FL
GND
FR
GND
GND
ANAL_L
GND
ANAL_R
+15V
-15V
FROM DSP UNIT
CP802
A_GND
CP701
9273_CE
9273_CLK
9273_DATA
+15V
-15V
V.AUX_L
GND
V.AUX_R
GND
TUNER_L
GND
TUNER_R
FROM INPUT UNIT
CP702
L2-OUT
GND
R2-OUT
GND
L1-OUT
GND
R1-OUT
GND
HPF-L
GND
HPF-R
FROM INPUT UNIT
CP402
SL(9164_11)
GND
SR(9164_18)
GND
CNT(9164_8)
GND
SW(9164_21)
GND
FL(9164_05)
GND
FR(9164_24)
GND
TUNER_R
GND
TUNER_L
FROM TUNER UNIT
CP401
R283 100
R284 100
R282 100
R232 100(1W)-R
C261L 100P
R261L 4K7
R260L 3K9
R262L 15K
IC261A NJM2068(1/2)
C246 47N
C244 47N
C262L 33P
R263L 15K
IC251A NJM2068(1/2)
R264L 100
C263L 10/35
C261R 100P
R261R 4K7
C245 47N
C243 47N
R260R 3K9
R262R 15K
IC281B NJM2068(2/2)
C262R 33P
R263R 15K
IC251B NJM2068(2/2)
R264R 100
C263R 10/35
R265L 100K
R265R 100K
R266R 6K2
R266L 6K2
Q251 2SK117Y
D251 1SS133T
R258 10K
C214 1/50
Q252 2SK117Y
D252 1SS133T
Q231 DTA114ES
R259 2K2
Q232 DTC144ES
R281
KIC9164.ST
C251 100P
R252 6K8
R251 3K9
IC241A NJM2068(1/2)
R253 5K6
C252 47P
R254 8K2
IC241B NJM2068(2/2)
R255 100
C242 47N
C241 47N
C253 10/35
R256 100K


6
7
8
9
10
11
A
B
C
D
CPU BOARD
IC231
M62446
IC221
TC9164
LBSS1
LBSS2
LBSS3
LTRE
RBASS1
RBASS2
RBASS3
RTRE
TONE
TONE
GNDL
GNDR
GND
AVdd
AVss
AGND
OUT PORT
MCU I/F
Vss
Vdd
ANA_L
HPF_L
DSP_FL
FL
OUT_FL
DSP_C
CNT
OUT_C
DSP_SL
SL
OUT_SL
ST
GND
ANA_R
HPF_R
DSP_FR
FR
OUT_FR
DSP_SW
SW
OUT_SW
DSP_SR
SR
OUT_SR
DATA
CLK
C282 100P
R281 1K
R278 1K
R279 1K
KIC9164_ST
KIC9164_CLK
KIC9164_DATA
R232 100(1W)-R
R231 100(1W)-R
C233 47/25
C231 47/25
C236 47/25
C238 47/25
R274 220(1W)-R
C273 47/10
C220 47N
ZD272 MTZJ7.5A
C274 0.33/50
C275 15N
C281 8N2
C278 0.33/50
C279 15N
C280 8N2
C277 3.3/50
C276 3.3/50
C205BL 4.7/50
C205BR 4.7/50
C205FL 4.7/50
C205FR 4.7/50
C205C 4.7/50
C205SL 4.7/50
C205SR 4.7/50
C205SW 4.7/50
R286FL 220K
R286FR 220K
R286C 220K
R286SL 220K
R286SR 220K
R286SW 220K
R271 220(1W)-R
R272 750
ZD271 MTZJ7.5A
C271 47/10
C219 47N
R273 2K7
C272 1/50
FL
FR
C
SL
SR
SW
IC271A NJM2068(1/2)
IC271B NJM2068(2/2)
IC281A NJM2068(1/2)
IC281B NJM2068(2/2)
IC291A NJM2068(1/2)
C221 47N
C222 47N
C223 47N
C224 47N
C225 47N
C292FL 10/35
C292FR 10/35
C292SL 10/35
C292SR 10/35
C292C 4.7/50
R292FL 100
R292FR 100
R292SL 100
R292SR 100
R292C 100
R293FL 47K
R293FR 47K
R293SL 47K
R293SR 47K
R296FL 5K6
R296FR 5K6
R296SL 13K
R296SR 13K
R296C 13K
C296FL 82P
C296FR 82P
C296SL 39P
C296SR 39P
R294FL 5K1
R294FR 5K1
C294FL 4N7
C294FR 4N7
C295FL 680P
C295FR 680P
R297FL 1K
R297FR 1K
R297SL 2K2
R297SR 2K2
Q291FL 2SK117Y
Q291FR 2SK117Y
D293 1SS133T
D294 1SS133T
R299FL 470
R299FR 470
R299SL 470
R299SR 470
R299C 470
CP551
TO CONNECTION UNIT
FL
GND
FR
GND
SL
GND
SR
GND
C
GND
SW
GND
+15V
-15V
R208 1K
D201 KDS160
R219 OPEN OPEN OPEN 10K
R217 10K 10K 10K 10K
PTION


CP40
RDS_DET_OUT
GND
+15V
TUNED(CPU_97)
ST(CPU_96)
TU_MUTE(CPU_95)
PLL_DT_IN(CPU_94)
PLL_CLK(CPU_93)
PLL_DATA(CPU_92)
PLL_CE(CPU_90)
D261 1N4007
R247
R246
R245
R244
J250
J251
J252
FROM TUNER UNIT
C268 C267 C266 C265 C262 100P
SRAM_CE
49326_ABOOT
ROM_3
ROM_30
ROM_2
ROM_CE
49326_RST
49326_INTREQ
49326_CE
89055/4527/49326_SDIN
89055/4527/49326_SCLK
89055_CE
4527_CE
89055/4527/49326_SDIO
4527_RST
DSP_GND
DSP_+5V
TO DSP UNIT
CP801
74HC151_A0
74HC151_A1
89055_RST
89055_EMPHA
89055_CS1
89055_AUTO
EAR_MUTE
SEL_CLK
TO DSP UNIT
CP803
R248 470
R243 470
R242 470
R241 470
IC201
CXP740096(AVR-1602)
CXP740056(AVC-1550)
C281 C283 C264 100P
R211 10K
R212 1K
R235 10K
R234 10K
R220
R213 12K
R214 12K
R215 12K
R210 1K
CP552
TO CONNECTION UNIT
-VKK
PROTECT
PWR_DOWN
DSP_GND
DSP_+5V
CPU_GND
CPU_+5.6V
SURR_MUTE
FRONT_MUTE
CNT_MUTE
H/P_MUTE
RLY_POWER
RLY_CNT
RLY_SURR
RLY_FRONT_A
RLY_FRONT_B
+B(SW_MUTE)
TO FRONT UNIT
CP1018
KEY_IN1(CPU_62)
KEY_IN2(CPU_61)
KEY_IN3(CPU_60)
VOL_UP
VOL_DOWN
2090_DATA
FL_DRV/2090_CLK
FL_DRV_DATA
FL_DRV_CE
FL_DRV_RST
REMOCON(CPU_85)
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
9K/10K_S/W
CPU_GND

## WARNING:

Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

## CAUTION:

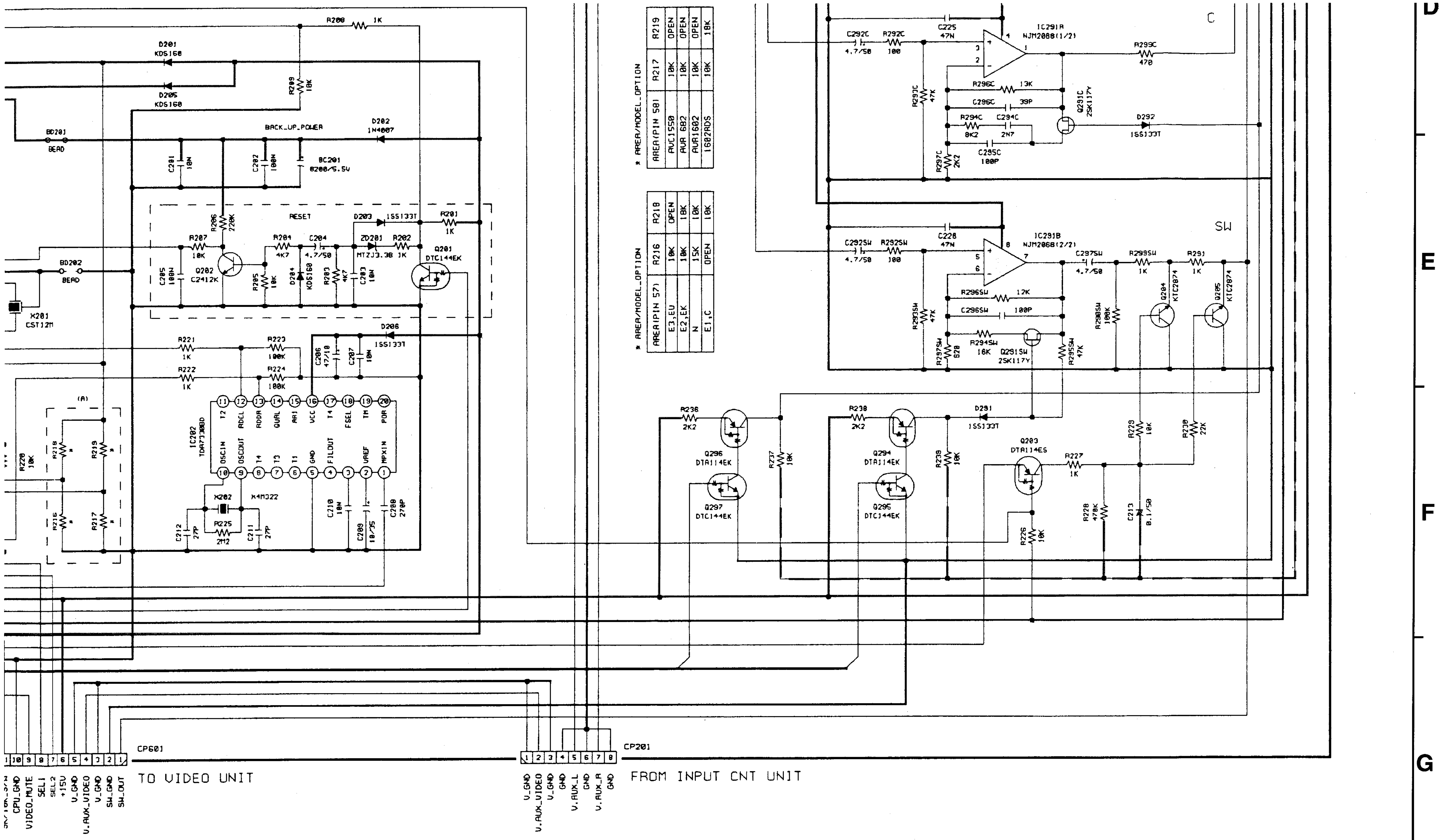
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

## WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

## NOTICE

ALL RESISTANCE VALUES IN
ALL CAPACITANCE VALUES I
EACH VOLTAGE AND CURRE
CONDITION.
CIRCUIT AND PARTS ARE SU
NOTICE.


R208 1K
D201 KDS160
D205 KDS160
R209 10K
BD201 BEAD
BACK_UP_POWER
D202 1N4007
C201 10N
C202 100N
BC201 0200/5.5V
RESET
R206 220K
R207 10K
Q202 C2412K
C205 100N
R204 4K7
C204 4.7/50
R205 10K
D204 KDS160
R203 4K7
C203 10N
D203 1SS133T
ZD201 MTZJ3.3B
R202 1K
R201 1K
Q201 DTC144EK
BD202 BEAD
X201 CST12M
R221 1K
R222 1K
R223 100K
R224 100K
C206 47/10
C207 10N
D206 1SS133T
IC202 TDA7330BD
OSCIN OSCOUT T4 T3 T1 GND FILOUT VREF MPXIN
T2 ADCL RODA QUAL ARI VCC T4 FSEL TM POR
X202 K4M322
R225 2M2
C212 27P
C211 27P
C210 10N
C209 10/35
C208 270P
(A)
R220 10K
R218
R219
R216
R217
C225 47N
IC291A NJM2068(1/2)
C292C 4.7/50
R292C 100
R293C 47K
R296C 13K
C296C 39P
R294C 8K2
C294C 2N7
C295C 100P
R297C 2K2
Q291C 2SK117Y
R299C 470
D292 1SS133T
C
C228 47N
IC291B NJM2068(2/2)
C292SW 4.7/50
R292SW 100
R293SW 47K
R296SW 12K
C296SW 100P
R294SW 16K
Q291SW 2SK117Y
R297SW 820
R295SW 47K
C297SW 4.7/50
R299SW 1K
R291 1K
R298SW 10K
Q204 KTC2874
Q205 KTC2874
SW
R236 2K2
Q296 DTA114EK
Q297 DTC144EK
R237 10K
R238 2K2
Q294 DTA114EK
Q295 DTC144EK
R239 10K
D291 1SS133T
Q203 DTA114ES
R227 1K
R229 10K
R230 22K
R228 470K
C213 0.1/50
R226 10K
CP601
TO VIDEO UNIT
CPU_GND
VIDEO_MUTE
SEL1
SEL2
+15V
V_GND
V.AUX_VIDEO
V_GND
SW_GND
SW_OUT
CP201
FROM INPUT CNT UNIT
V_GND
V.AUX_VIDEO
V_GND
GND
V.AUX_L
GND
V.AUX_R
GND
D
E
F
G
H

* AREA/MODEL_OPTION

| AREA(PIN 58) | R217 | R219 |
|---|---|---|
| AVC1550 | 10K | OPEN |
| AVR 682 | 10K | OPEN |
| AVR1602 | 10K | OPEN |
| 1602RDS | 10K | 10K |

* AREA/MODEL_OPTION

| AREA(PIN 57) | R216 | R218 |
|---|---|---|
| E3,EU | 10K | OPEN |
| E2,EK | 10K | 10K |
| N | 15K | 10K |
| E1,C | OPEN | 10K |

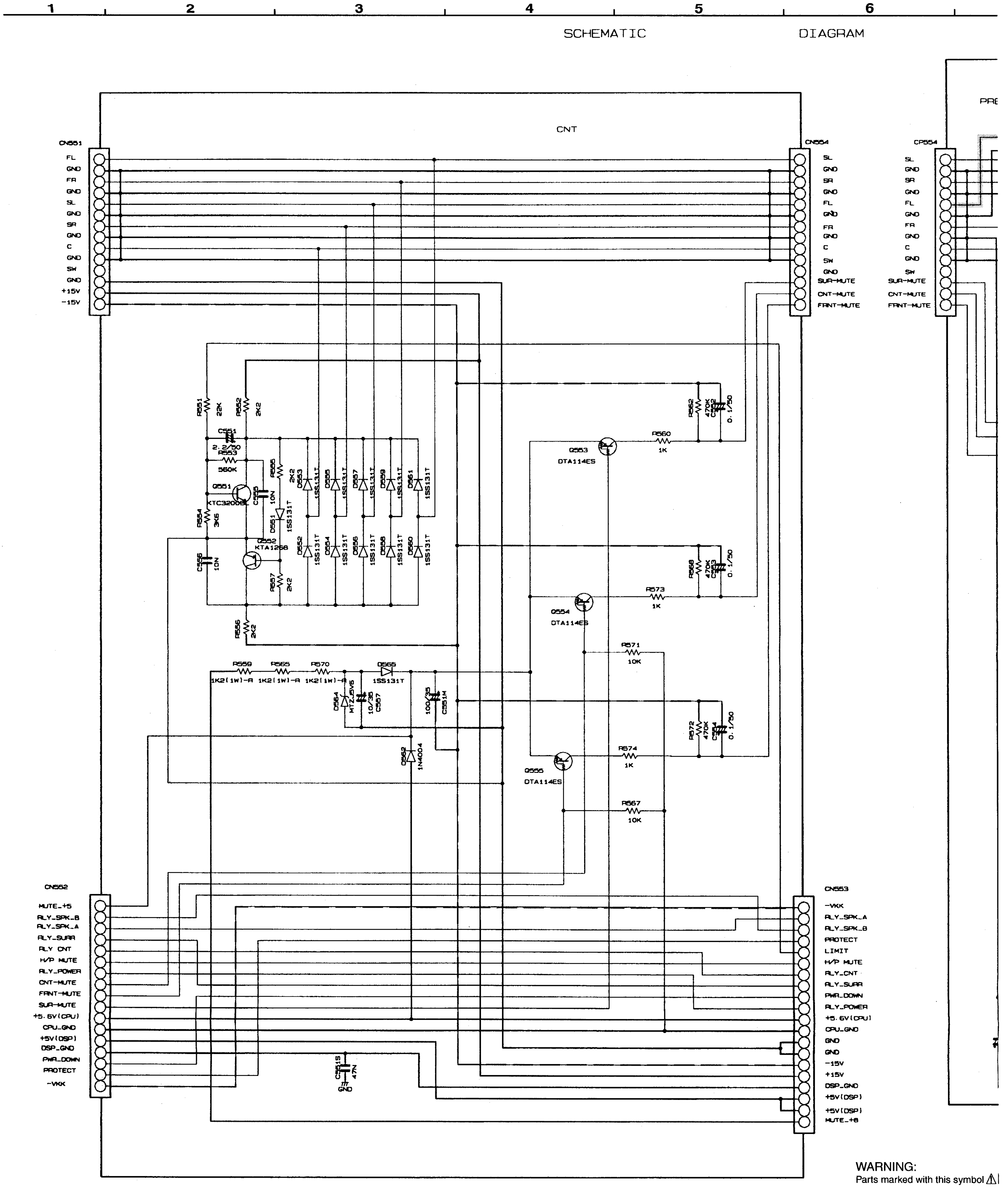
IN OHM. k=1,000 OHM M=1,000,000 OHM
S IN MICRO FARAD. P=MICRO-MICRO FARAD
RENT ARE MEASUERD AT MO SIGNAL INPUT

SUBJECT TO CHANGE WITHOUT PRIOR

——— + B LINE
— — — - B LINE
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(3/7)
CPU P.W.B. UNIT

# SCHEMATIC DIAGRAMS(4/7)


1
2
3
4
5
6
SCHEMATIC DIAGRAM
CNT
CN551
FL
GND
FR
GND
SL
GND
SR
GND
C
GND
SW
GND
+15V
-15V
CN554
SL
GND
SR
GND
FL
GND
FR
GND
C
SW
GND
SUR-MUTE
CNT-MUTE
FRNT-MUTE
CP554
SL
GND
SR
GND
FL
GND
FR
GND
C
GND
SW
SUR-MUTE
CNT-MUTE
FRNT-MUTE
PRE
R551 22K
R552 2K2
C551 2.2/50
R553 560K
Q551 KTC3200GL
C555 10N
R555 2K2
D551 1SS131T
R554 3K6
C556 10N
Q552 KTA1268
R557 2K2
R556 2K2
D553 1SS131T
D555 1SS131T
D557 1SS131T
D559 1SS131T
D561 1SS131T
D552 1SS131T
D554 1SS131T
D556 1SS131T
D558 1SS131T
D560 1SS131T
R562 470K
C552 0.1/50
R560 1K
Q553 DTA114ES
R568 470K
C553 0.1/50
R573 1K
Q554 DTA114ES
R571 10K
R559 1K2(1W)-R
R565 1K2(1W)-R
R570 1K2(1W)-R
D565 1SS131T
D564 MTZJ5V6
C557 10/35
C551M 100/35
D562 1N4004
R572 470K
C554 0.1/50
R574 1K
Q555 DTA114ES
R567 10K
CN552
MUTE_+5
RLY_SPK_B
RLY_SPK_A
RLY_SURR
RLY CNT
H/P MUTE
RLY_POWER
CNT-MUTE
FRNT-MUTE
SUR-MUTE
+5.6V(CPU)
CPU_GND
+5V(DSP)
DSP_GND
PWR_DOWN
PROTECT
-VKK
C551S 47N
GND
CN553
-VKK
RLY_SPK_A
RLY_SPK_B
PROTECT
LIMIT
H/P MUTE
RLY_CNT
RLY_SURR
PWR_DOWN
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+8

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

## WARNING:

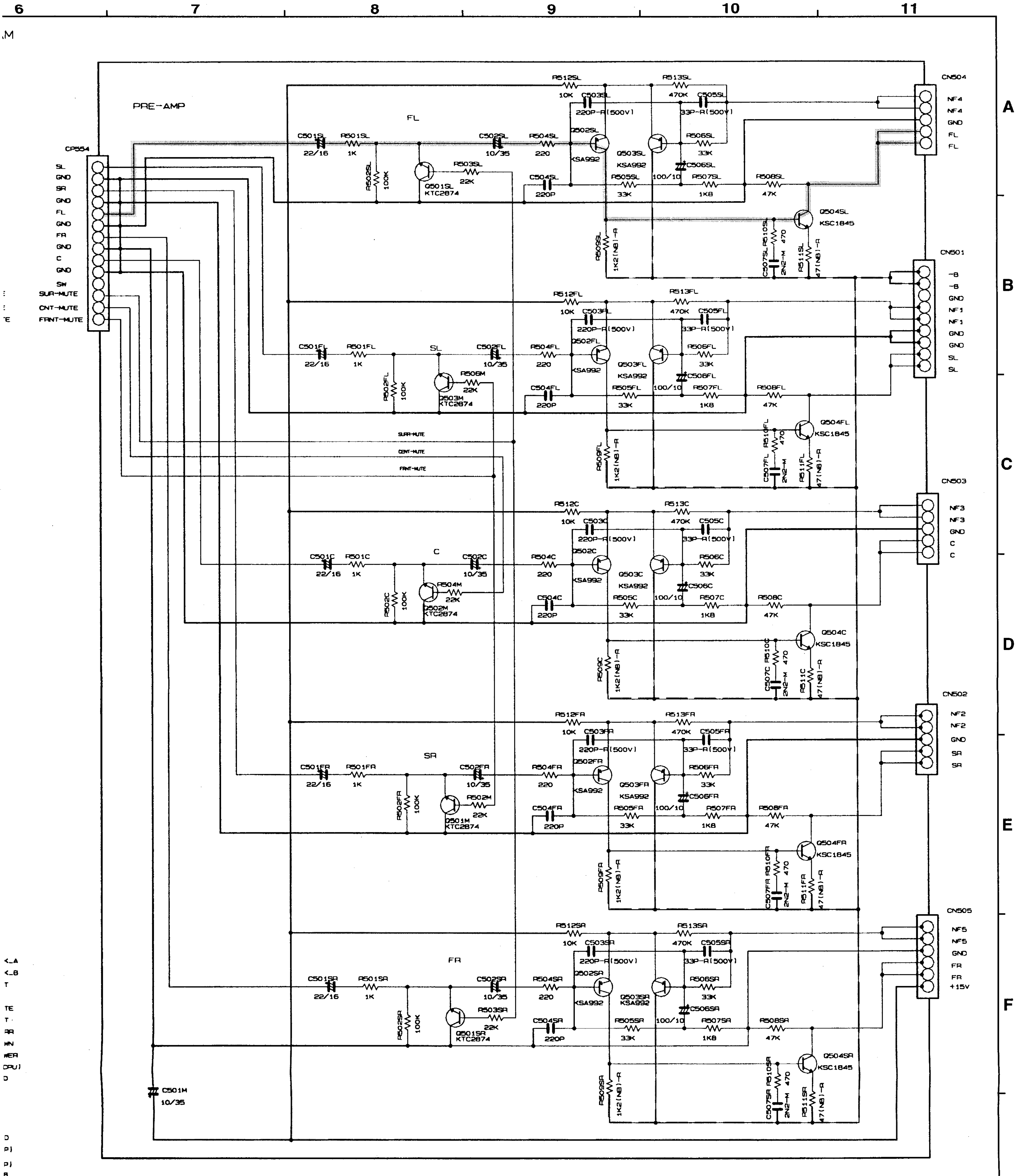
Parts marked with this symbol ⚠
Use ONLY replacement parts rec

## CAUTION:

Before returning the unit to the cu
leakage current check or (2) a line
current exceeds 0.5 milliamps, or
of the power card is less than 460

## WARNING:

DO NOT return the unit to the cus
corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
PRE-AMP
CP554
SL
GND
SR
GND
FL
GND
FR
GND
C
GND
SW
SUR-MUTE
CNT-MUTE
FRNT-MUTE
FL
SL
C
SR
FR
CN504
NF4
NF4
GND
FL
FL
CN501
-B
-B
GND
NF1
NF1
GND
GND
SL
SL
CN503
NF3
NF3
GND
C
C
CN502
NF2
NF2
GND
SR
SR
CN505
NF5
NF5
GND
FR
FR
+15V
C501SL 22/16
R501SL 1K
R502SL 100K
Q501SL KTC2874
R503SL 22K
C502SL 10/35
R504SL 220
R512SL 10K
C503SL 220P-R(500V)
Q502SL KSA992
Q503SL KSA992
R513SL 470K
C505SL 33P-R(500V)
R506SL 33K
C506SL 100/10
C504SL 220P
R505SL 33K
R507SL 1K8
R508SL 47K
Q504SL KSC1845
R509SL 1K2(NB)-R
R510SL 470
C507SL 2N2-M
R511SL 47(NB)-R
C501FL 22/16
R501FL 1K
R502FL 100K
Q503M KTC2874
R506M 22K
C502FL 10/35
R504FL 220
R512FL 10K
C503FL 220P-R(500V)
Q502FL KSA992
Q503FL KSA992
R513FL 470K
C505FL 33P-R(500V)
R506FL 33K
C506FL 100/10
C504FL 220P
R505FL 33K
R507FL 1K8
R508FL 47K
Q504FL KSC1845
R509FL 1K2(NB)-R
R510FL 470
C507FL 2N2-M
R511FL 47(NB)-R
SURR-MUTE
CENT-MUTE
FRNT-MUTE
C501C 22/16
R501C 1K
R502C 100K
Q502M KTC2874
R504M 22K
C502C 10/35
R504C 220
R512C 10K
C503C 220P-R(500V)
Q502C KSA992
Q503C KSA992
R513C 470K
C505C 33P-R(500V)
R506C 33K
C506C 100/10
C504C 220P
R505C 33K
R507C 1K8
R508C 47K
Q504C KSC1845
R509C 1K2(NB)-R
R510C 470
C507C 2N2-M
R511C 47(NB)-R
C501FR 22/16
R501FR 1K
R502FR 100K
Q501M KTC2874
R502M 22K
C502FR 10/35
R504FR 220
R512FR 10K
C503FR 220P-R(500V)
Q502FR KSA992
Q503FR KSA992
R513FR 470K
C505FR 33P-R(500V)
R506FR 33K
C506FR 100/10
C504FR 220P
R505FR 33K
R507FR 1K8
R508FR 47K
Q504FR KSC1845
R509FR 1K2(NB)-R
R510FR 470
C507FR 2N2-M
R511FR 47(NB)-R
C501SR 22/16
R501SR 1K
R502SR 100K
Q501SR KTC2874
R503SR 22K
C502SR 10/35
R504SR 220
R512SR 10K
C503SR 220P-R(500V)
Q502SR KSA992
Q503SR KSA992
R513SR 470K
C505SR 33P-R(500V)
R506SR 33K
C506SR 100/10
C504SR 220P
R505SR 33K
R507SR 1K8
R508SR 47K
Q504SR KSC1845
R509SR 1K2(NB)-R
R510SR 470
C507SR 2N2-M
R511SR 47(NB)-R
C501M 10/35

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

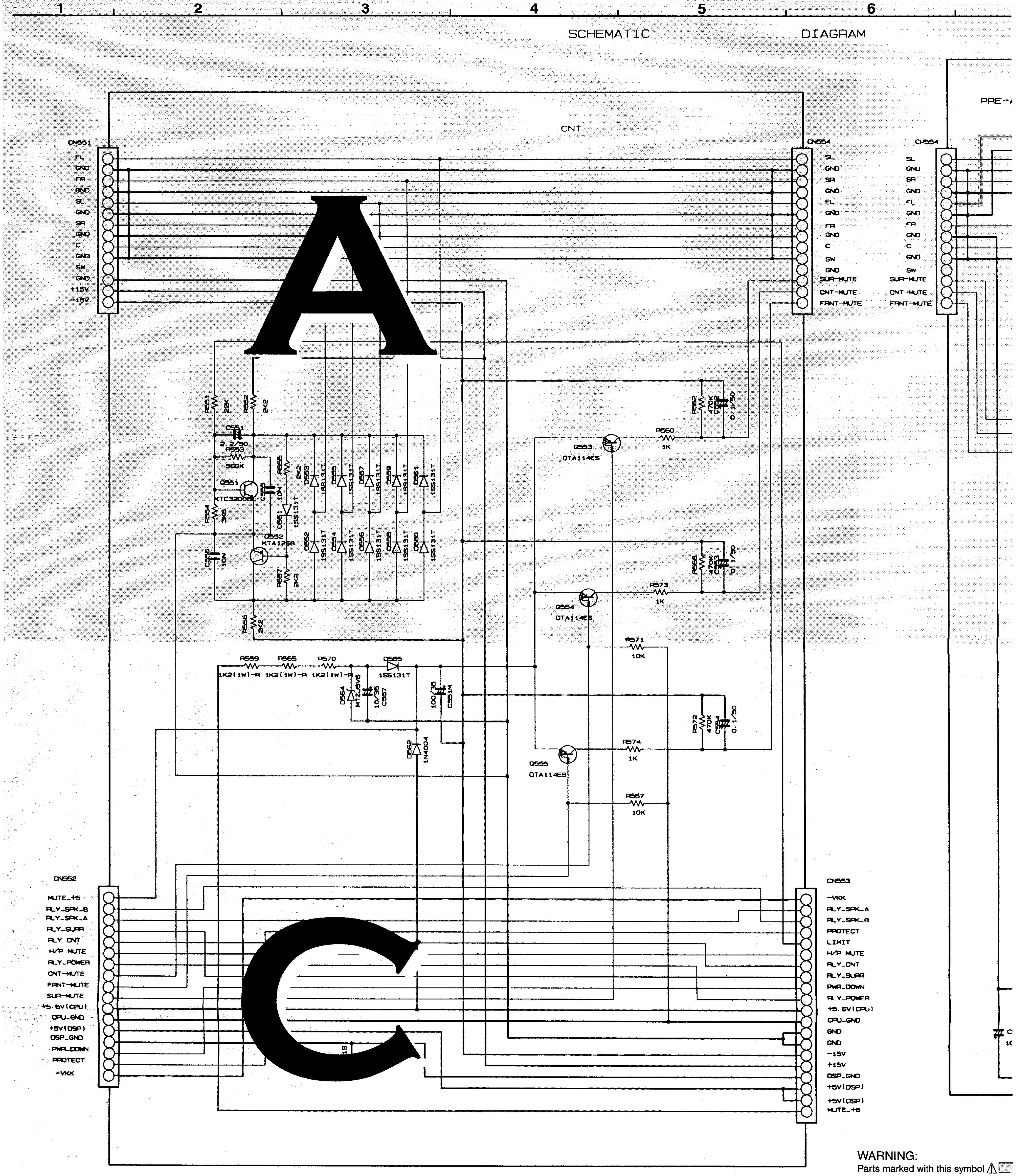
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

——— +B LINE
– – – –B LINE
▒▒▒ SIGNAL LINE

## SCHEMATIC DIAGRAMS(4/7)
CNT P.W.B. UNIT
PRE-AMP P.W.B. UNIT

H

# SCHEMATIC DIAGRAMS(4/7)

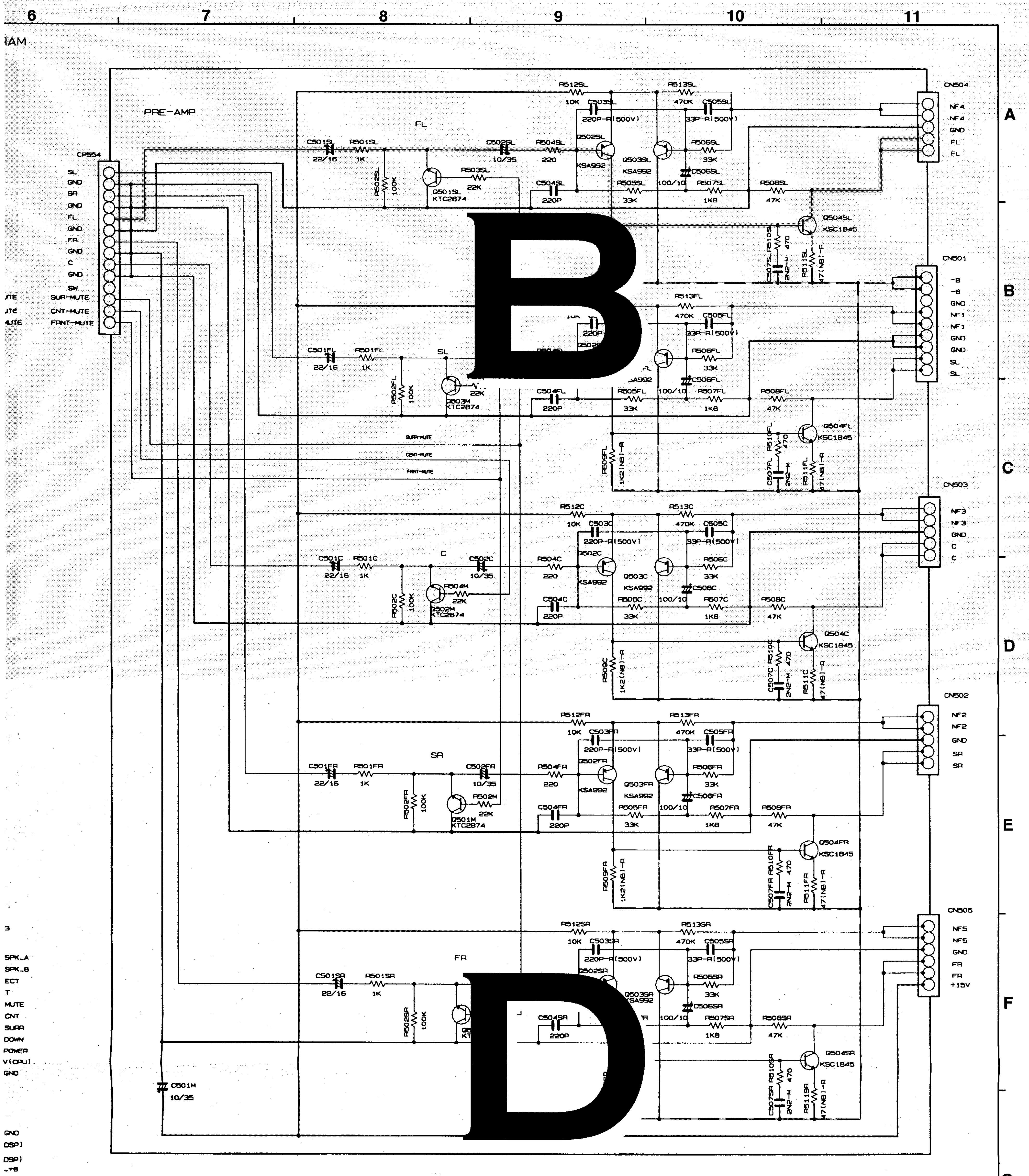

1
2
3
4
5
6
SCHEMATIC DIAGRAM
CNT
PRE--
A
C
CN551
FL
GND
FR
GND
SL
GND
SR
GND
C
GND
SW
GND
+15V
-15V
CN554
SL
GND
SR
GND
FL
GND
FR
GND
C
SW
GND
SUR-MUTE
CNT-MUTE
FRNT-MUTE
CP554
SL
GND
SR
GND
FL
GND
FR
GND
C
GND
SW
SUR-MUTE
CNT-MUTE
FRNT-MUTE
R551
22K
R552
2K2
C551
2.2/50
R553
560K
Q551
KTC3200GL
R554
3K5
C556
10N
Q552
KTA1268
R555
2K2
C555
10N
D551
1SS131T
D552
D553
D554
D555
D556
D557
D558
D559
D560
D561
1SS131T
R557
2K2
R556
2K2
R562
470K
C552
0.1/50
R560
1K
Q553
DTA114ES
R568
470K
C553
0.1/50
R573
1K
Q554
DTA114ES
R571
10K
R559
1K2(1W)-R
R565
1K2(1W)-R
R570
1K2(1W)-R
D565
1SS131T
D564
MTZJ5V6
C557
10/35
100/35
C551M
D562
1N4004
R572
470K
C554
0.1/50
R574
1K
Q555
DTA114ES
R567
10K
CN552
MUTE_+5
RLY_SPK_B
RLY_SPK_A
RLY_SURR
RLY CNT
H/P MUTE
RLY_POWER
CNT-MUTE
FRNT-MUTE
SUR-MUTE
+5.6V(CPU)
CPU_GND
+5V(DSP)
DSP_GND
PWR_DOWN
PROTECT
-VKK
CN553
-VKK
RLY_SPK_A
RLY_SPK_B
PROTECT
LIMIT
H/P MUTE
RLY_CNT
RLY_SURR
PWR_DOWN
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+8
1S

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠
Use ONLY replacement parts recom

CAUTION:
Before returning the unit to the custo
leakage current check or (2) a line to
current exceeds 0.5 milliamps, or if th
of the power card is less than 460ko

WARNING:
DO NOT return the unit to the custon
corrected.


6
7
8
9
10
11
A
B
C
D
E
F
IAM
PRE-AMP
CP554
SL
GND
SR
GND
FL
GND
FR
GND
C
GND
SW
SUR-MUTE
CNT-MUTE
FRNT-MUTE
JTE
JTE
UTE
FL
SL
C
SR
FR
C501SL 22/16
R501SL 1K
R502SL 100K
Q501SL KTC2874
R503SL 22K
C502SL 10/35
R504SL 220
R512SL 10K
C503SL 220P-R(500V)
Q502SL KSA992
Q503SL KSA992
R513SL 470K
C505SL 33P-R(500V)
R506SL 33K
C506SL 100/10
R505SL 33K
R507SL 1K8
C504SL 220P
R508SL 47K
Q504SL KSC1845
R510SL 470
C507SL 2N2-M
R511SL 47(NB)-R
CN504
NF4
NF4
GND
FL
FL
CN501
-B
-B
GND
NF1
NF1
GND
GND
SL
SL
R513FL 470K
C505FL 33P-R(500V)
C501FL 22/16
R501FL 1K
R502FL 100K
Q503M KTC2874
22K
R506FL 33K
C508FL
C504FL 220P
R505FL 33K
R507FL 1K8
R508FL 47K
Q504FL KSC1845
R509FL 1K2(NB)-R
R510FL 470
C507FL 2N2-M
R511FL 47(NB)-R
SURR-MUTE
CENT-MUTE
FRNT-MUTE
CN503
NF3
NF3
GND
C
C
R512C 10K
C503C 220P-R(500V)
R513C 470K
C505C 33P-R(500V)
C501C 22/16
R501C 1K
R502C 100K
R504M 22K
Q502M KTC2874
C502C 10/35
R504C 220
Q502C KSA992
Q503C KSA992
R506C 33K
C506C 100/10
C504C 220P
R505C 33K
R507C 1K8
R508C 47K
Q504C KSC1845
R509C 1K2(NB)-R
R510C 470
C507C 2N2-M
R511C 47(NB)-R
CN502
NF2
NF2
GND
SR
SR
R512FR 10K
C503FR 220P-R(500V)
R513FR 470K
C505FR 33P-R(500V)
C501FR 22/16
R501FR 1K
R502FR 100K
Q501M KTC2874
R502M 22K
C502FR 10/35
R504FR 220
Q502FR KSA992
Q503FR KSA992
R506FR 33K
C506FR 100/10
C504FR 220P
R505FR 33K
R507FR 1K8
R508FR 47K
Q504FR KSC1845
R509FR 1K2(NB)-R
R510FR 470
C507FR 2N2-M
R511FR 47(NB)-R
CN505
NF5
NF5
GND
FR
FR
+15V
R512SR 10K
C503SR 220P-R(500V)
R513SR 470K
C505SR 33P-R(500V)
C501SR 22/16
R501SR 1K
R502SR 100K
Q502SR
Q503SR KSA992
R506SR 33K
C506SR 100/10
C504SR 220P
R507SR 1K8
R508SR 47K
Q504SR KSC1845
R510SR 470
C507SR 2N2-M
R511SR 47(NB)-R
C501M 10/35
3
SPK_A
SPK_B
ECT
T
MUTE
CNT
SURR
DOWN
POWER
V(CPU)
GND
GND
DSP)
DSP)
_+B
B
D

G

H

WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

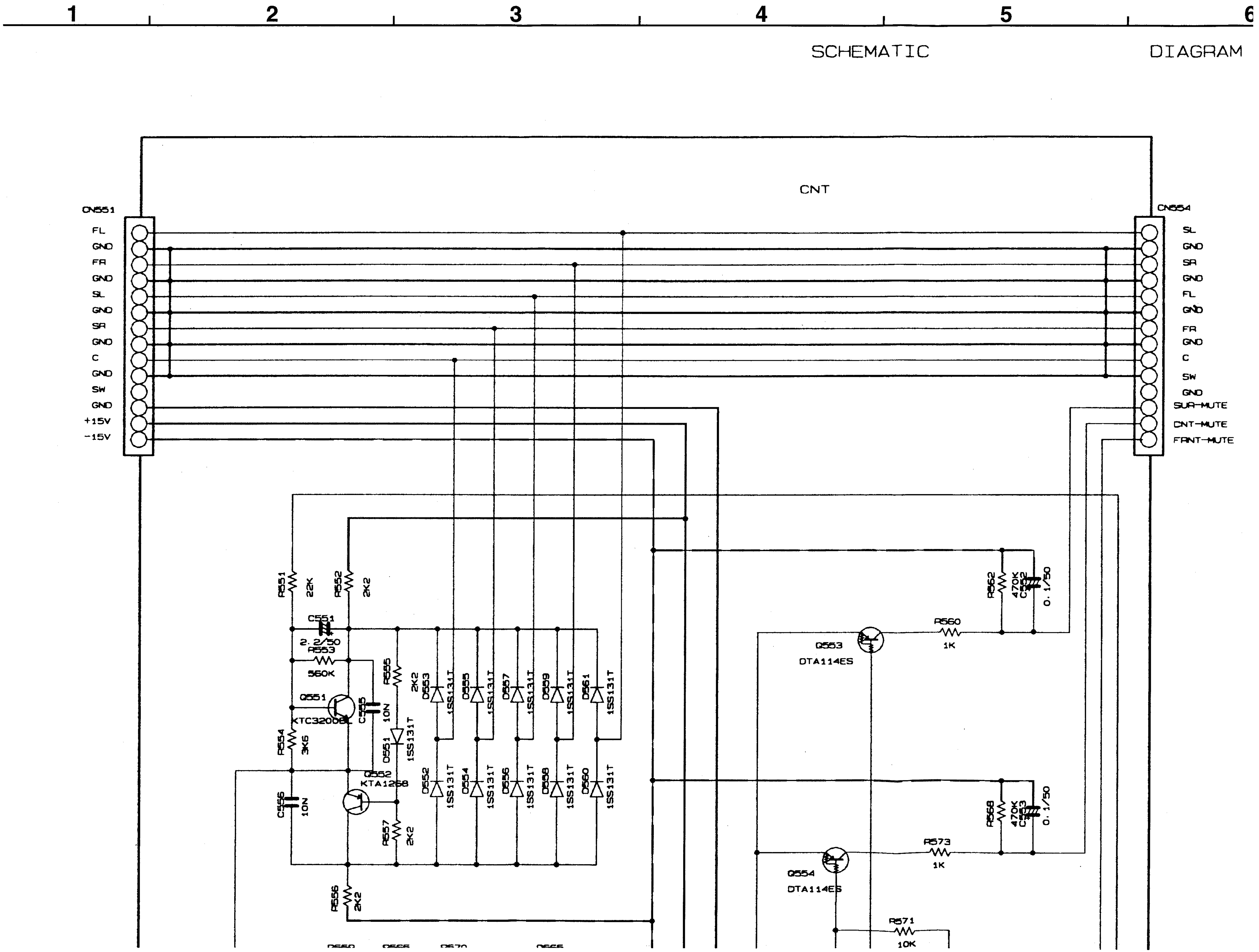
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

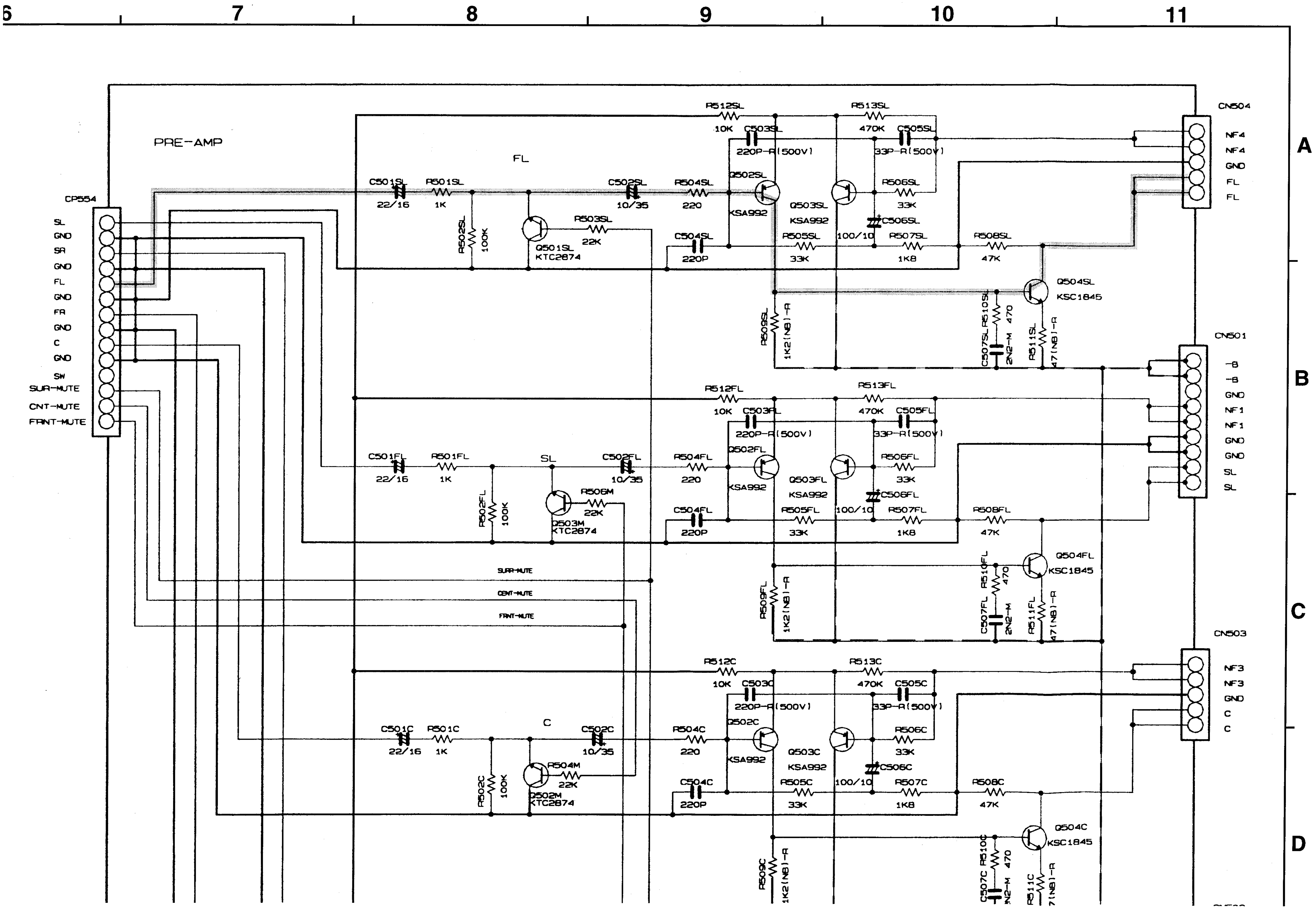
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

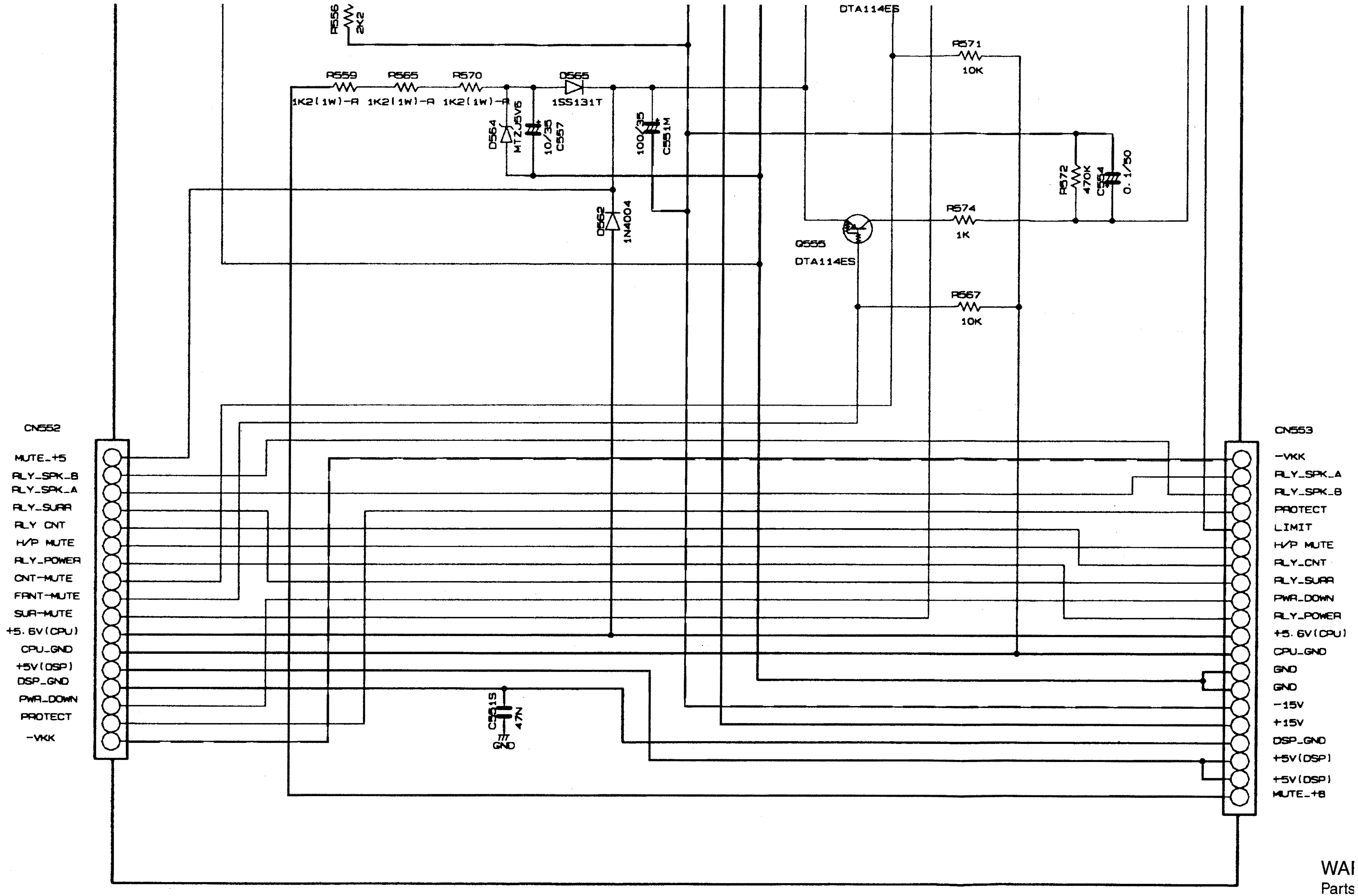
———— + B LINE
— — — – B LINE
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(4/7)
CNT P.W.B. UNIT
PRE-AMP P.W.B. UNIT

# SCHEMATIC DIAGRAMS(4/7)


1
2
3
4
5
6
SCHEMATIC
DIAGRAM
CNT
CN551
FL
GND
FR
GND
SL
GND
SR
GND
C
GND
SW
GND
+15V
-15V
CN554
SL
GND
SR
GND
FL
GND
FR
GND
C
SW
GND
SUR-MUTE
CNT-MUTE
FRNT-MUTE
R551
22K
R552
2K2
C551
2.2/50
R553
560K
R555
2K2
Q551
KTC3200BL
C555
10N
D551
1SS131T
R554
3K6
Q552
KTA1268
C556
10N
R557
2K2
R556
2K2
D553
1SS131T
D555
1SS131T
D557
1SS131T
D559
1SS131T
D561
1SS131T
D552
1SS131T
D554
1SS131T
D556
1SS131T
D558
1SS131T
D560
1SS131T
R562
470K
C552
0.1/50
R560
1K
Q553
DTA114ES
R568
470K
C553
0.1/50
R573
1K
Q554
DTA114ES
R571
10K


6
7
8
9
10
11
A
B
C
D
PRE-AMP
FL
CP554
SL
GND
SR
GND
FL
GND
FR
GND
C
GND
SW
SUR-MUTE
CNT-MUTE
FRNT-MUTE
C501SL
22/16
R501SL
1K
R502SL
100K
Q501SL
KTC2874
R503SL
22K
C502SL
10/35
R504SL
220
C504SL
220P
R512SL
10K
C503SL
220P-R(500V)
Q502SL
KSA992
Q503SL
KSA992
R505SL
33K
R513SL
470K
C505SL
33P-R(500V)
R506SL
33K
C506SL
100/10
R507SL
1K8
R508SL
47K
Q504SL
KSC1845
R509SL
1K2(NB)-R
R510SL
470
C507SL
2N2-M
R511SL
47(NB)-R
CN504
NF4
NF4
GND
FL
FL
CN501
-B
-B
GND
NF1
NF1
GND
GND
SL
SL
SL
C501FL
22/16
R501FL
1K
R502FL
100K
Q503M
KTC2874
R506M
22K
C502FL
10/35
R504FL
220
C504FL
220P
R512FL
10K
C503FL
220P-R(500V)
Q502FL
KSA992
Q503FL
KSA992
R505FL
33K
R513FL
470K
C505FL
33P-R(500V)
R506FL
33K
C506FL
100/10
R507FL
1K8
R508FL
47K
Q504FL
KSC1845
R509FL
1K2(NB)-R
R510FL
470
C507FL
2N2-M
R511FL
47(NB)-R
SURR-MUTE
CENT-MUTE
FRNT-MUTE
CN503
NF3
NF3
GND
C
C
C
C501C
22/16
R501C
1K
R502C
100K
Q502M
KTC2874
R504M
22K
C502C
10/35
R504C
220
C504C
220P
R512C
10K
C503C
220P-R(500V)
Q502C
KSA992
Q503C
KSA992
R505C
33K
R513C
470K
C505C
33P-R(500V)
R506C
33K
C506C
100/10
R507C
1K8
R508C
47K
Q504C
KSC1845
R509C
1K2(NB)-R
R510C
470
C507C
2N2-M
R511C
47(NB)-R



R556
2K2
DTA114ES
R571
10K
R559
R565
R570
D565
1K2(1W)-R
1K2(1W)-R
1K2(1W)-R
1SS131T
D564
MTZJ5V6
10/35
C557
100/35
C551M
R572
470K
C554
0.1/50
D562
1N4004
Q555
DTA114ES
R574
1K
R567
10K
CN552
MUTE_+5
RLY_SPK_B
RLY_SPK_A
RLY_SURR
RLY CNT
H/P MUTE
RLY_POWER
CNT-MUTE
FRNT-MUTE
SUR-MUTE
+5.6V(CPU)
CPU_GND
+5V(DSP)
DSP_GND
PWR_DOWN
PROTECT
-VKK
C551S
47N
GND
CN553
-VKK
RLY_SPK_A
RLY_SPK_B
PROTECT
LIMIT
H/P MUTE
RLY_CNT
RLY_SURR
PWR_DOWN
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+B

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
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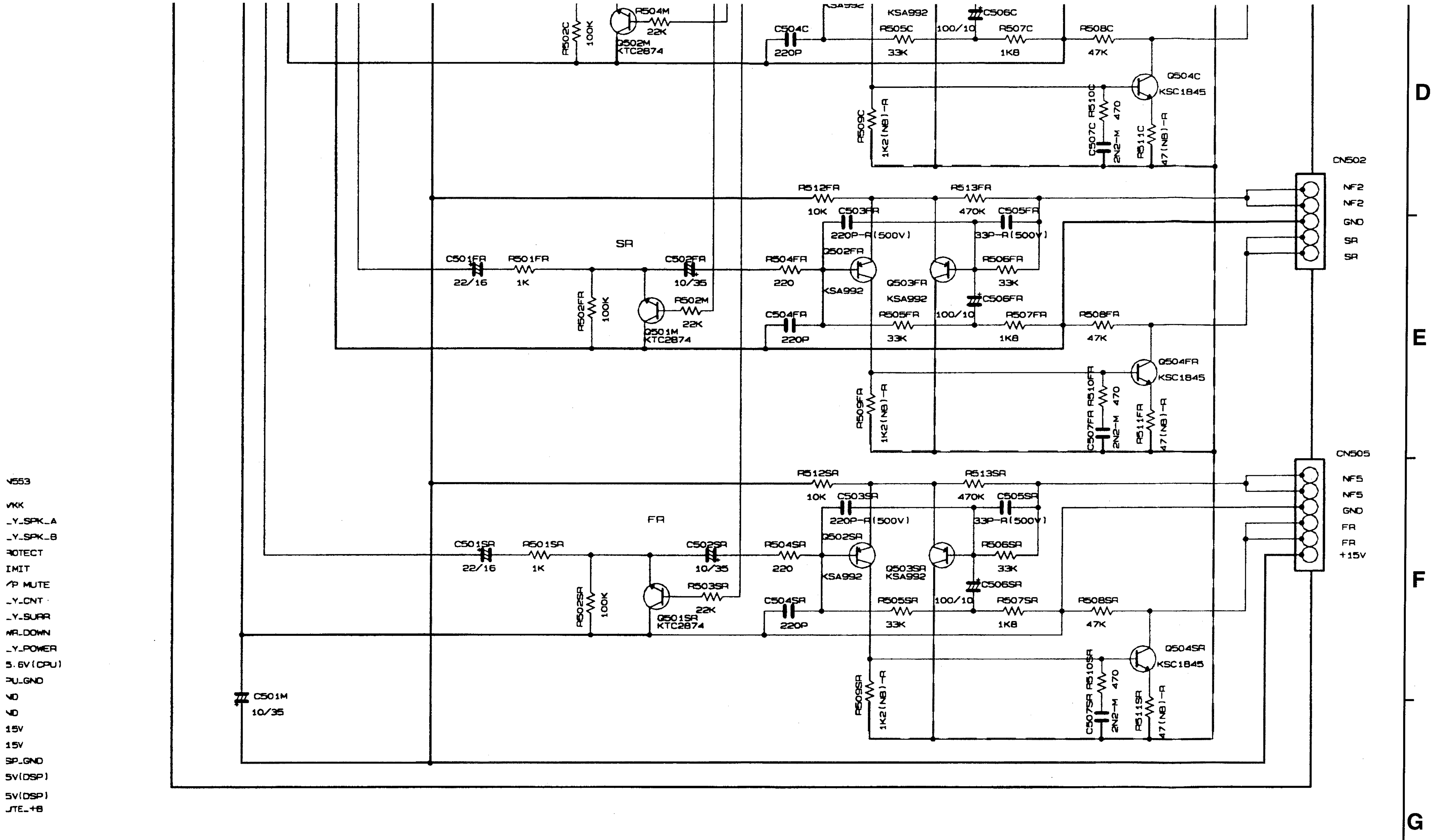

R504M
22K
R502C
100K
Q502M
KTC2874
KSA992
C506C
C504C
220P
R505C
33K
100/10
R507C
1K8
R508C
47K
Q504C
KSC1845
R509C
1K2(NB)-R
C507C
2N2-M
R510C
470
R511C
47(NB)-R
CN502
NF2
NF2
GND
SR
SR
R512FR
10K
C503FR
220P-R(500V)
R513FR
470K
C505FR
33P-R(500V)
SR
C501FR
22/16
R501FR
1K
C502FR
10/35
R502FR
100K
R502M
22K
Q501M
KTC2874
R504FR
220
Q502FR
KSA992
Q503FR
KSA992
R506FR
33K
C506FR
C504FR
220P
R505FR
33K
100/10
R507FR
1K8
R508FR
47K
Q504FR
KSC1845
R509FR
1K2(NB)-R
C507FR
2N2-M
R510FR
470
R511FR
47(NB)-R
CN505
NF5
NF5
GND
FR
FR
+15V
R512SR
10K
C503SR
220P-R(500V)
R513SR
470K
C505SR
33P-R(500V)
FR
C501SR
22/16
R501SR
1K
C502SR
10/35
R502SR
100K
R503SR
22K
Q501SR
KTC2874
R504SR
220
Q502SR
KSA992
Q503SR
KSA992
R506SR
33K
C506SR
C504SR
220P
R505SR
33K
100/10
R507SR
1K8
R508SR
47K
Q504SR
KSC1845
R509SR
1K2(NB)-R
C507SR
2N2-M
R510SR
470
R511SR
47(NB)-R
C501M
10/35
N553
WKK
_Y_SPK_A
_Y_SPK_B
ROTECT
IMIT
/P MUTE
_Y_CNT
_Y_SURR
WR_DOWN
_Y_POWER
5.6V(CPU)
PU_GND
ND
ND
15V
15V
SP_GND
5V(DSP)
5V(DSP)
UTE_+B
D
E
F
G

## WARNING:

Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

## CAUTION:

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

## WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

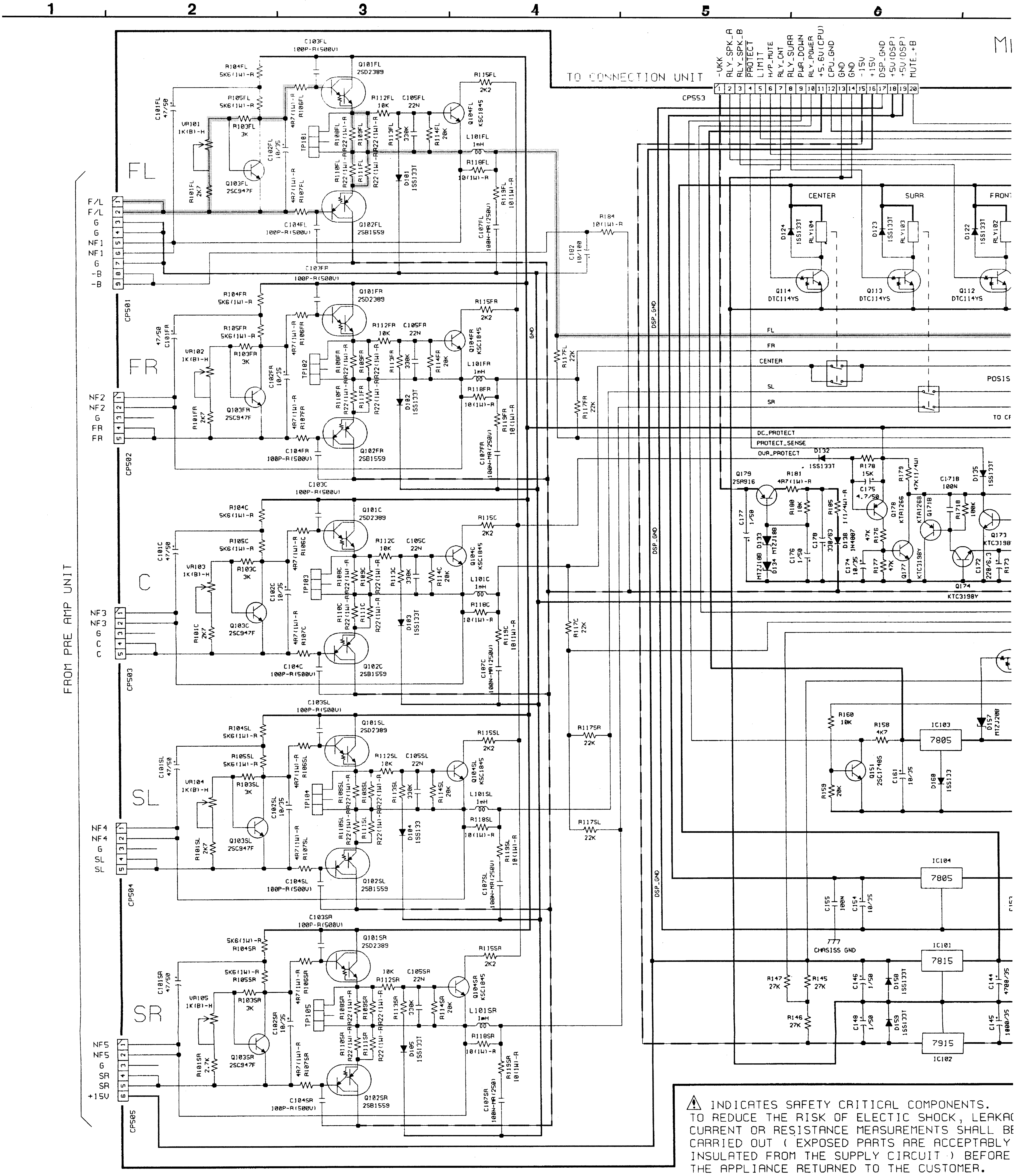
——— +B LINE
— — — - B LINE
▨ SIGNAL LINE

## SCHEMATIC DIAGRAMS(4/7)

CNT P.W.B. UNIT
PRE-AMP P.W.B. UNIT

H

## SCHEMATIC DIAGRAMS(5/7)


1
2
3
4
5
6
TO CONNECTION UNIT
CP553
-VKK
RLY_SPK_A
RLY_SPK_B
PROTECT
LIMIT
H/P_MUTE
RLY_CNT
RLY_SURR
PWR_DOWN
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+B
FROM PRE AMP UNIT
FL
FR
C
SL
SR
CP501
CP502
CP503
CP504
CP505
Q101FL 2SD2389
Q102FL 2SB1559
Q103FL 2SC947F
Q104FL KSC1845
VR101 1K(B)-H
L101FL 1mH
D101 1SS133T
CENTER
SURR
FRONT
Q114 DTC114YS
Q113 DTC114YS
Q112 DTC114YS
DC_PROTECT
PROTECT_SENSE
OVR_PROTECT
POSIS
TO CF
Q179 2SA916
Q178 KTA1266
Q177 KTC3198Y
Q171B KTA1268
Q173 KTC3198Y
Q174 KTC3198Y
IC103 7805
IC104 7805
IC101 7815
IC102 7915
Q151 2SC1740S
CHASISS GND
DSP_GND
GND

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
TO REDUCE THE RISK OF ELECTIC SHOCK, LEAKAG
CURRENT OR RESISTANCE MEASUREMENTS SHALL BE
CARRIED OUT ( EXPOSED PARTS ARE ACCEPTABLY
INSULATED FROM THE SUPPLY CIRCUIT ) BEFORE
THE APPLIANCE RETURNED TO THE CUSTOMER.

NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

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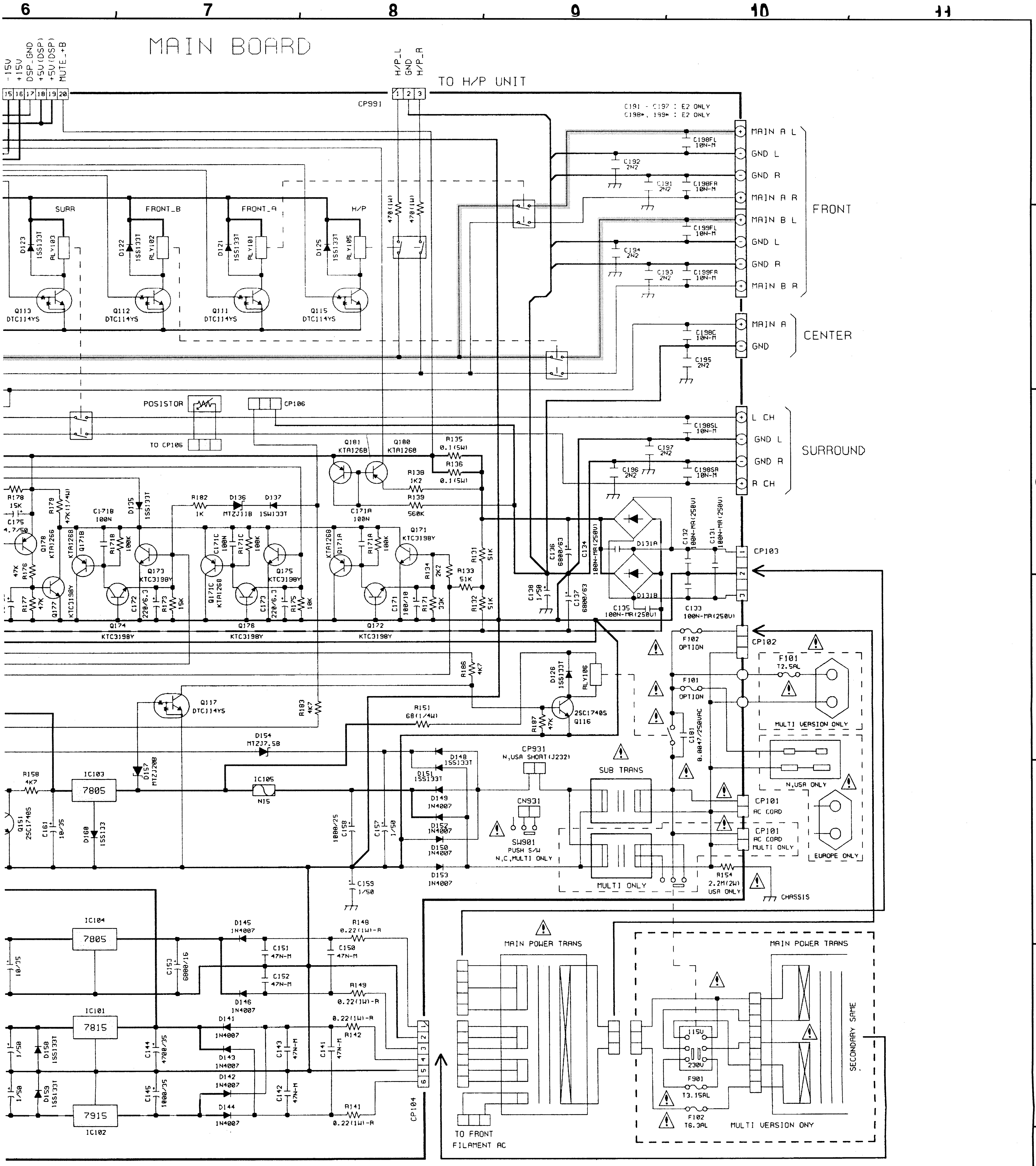
CAUTION:

Before returning the unit to the customer, make sure you make either (
leakage current check or (2) a line to chassis resistance check. If the le
current exceeds 0.5 milliamps, or if the resistance from chassis to eithe
of the power card is less than 460kohms, the unit is defective.

WARNING:

DO NOT return the unit to the customer until the problem is located an
corrected.


MAIN BOARD
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+B
15 16 17 18 19 20
H/P_L
GND
H/P_R
TO H/P UNIT
CP991
C191 - C197 : E2 ONLY
C198*, 199* : E2 ONLY
MAIN A L
GND L
GND R
MAIN A R
MAIN B L
GND L
GND R
MAIN B R
FRONT
MAIN A
GND
CENTER
L CH
GND L
GND R
R CH
SURROUND
SURR
FRONT_B
FRONT_A
H/P
D123 1SS133T RLY103
D122 1SS133T RLY102
D121 1SS133T RLY101
D125 1SS133T RLY105
Q113 DTC114YS
Q112 DTC114YS
Q111 DTC114YS
Q115 DTC114YS
POSISTOR
CP106
TO CP106
Q181 KTA1268
Q180 KTA1268
R135 0.1(5W)
R136 0.1(5W)
R138 1K2
R139 560K
Q171 KTC3198Y
Q173 KTC3198Y
Q175 KTC3198Y
Q174 KTC3198Y
Q176 KTC3198Y
Q172 KTC3198Y
CP103
CP102
F102 OPTION
F101 T2.5AL
F101 OPTION
MULTI VERSION ONLY
N,USA ONLY
CP101 AC CORD
CP101 AC CORD MULTI ONLY
EUROPE ONLY
RLY106
Q116 2SC1740S
Q117 DTC114YS
CP931 N,USA SHORT(J232)
SUB TRANS
CN931
SW901 PUSH S/W N,C,MULTI ONLY
MULTI ONLY
R154 2.2M(2W) USA ONLY
CHASSIS
IC103 7805
IC105 N15
IC104 7805
IC101 7815
IC102 7915
D154 MTZJ7.5B
D157 MTZJ20B
CP104
MAIN POWER TRANS
TO FRONT FILAMENT AC
115V
230V
F901 T3.15AL
F102 T6.3AL
MULTI VERSION ONY
SECONDARY SAME
6 7 8 9 10 11
A B C D E F G H

TICAL COMPONENTS.
ELECTIC SHOCK, LEAKAGE
MEASUREMENTS SHALL BE
PARTS ARE ACCEPTABLY
PLY CIRCUIT ) BEFORE
TO THE CUSTOMER.

|  | F101 | F102 | F901 | POSITION |
|---|---|---|---|---|
| N | T8A | T8A | × | MAIN B'D |
| E3 | 8A/125V | 8A/125V | × | MAIN B'D |
| E2 | T2.5AL | T3.15AL | × | MAIN B'D |
| C | × | T3.15AL | × | MAIN B'D |
| H,T,E1 | T2.5AL | T6.3AL | T3.15AL | V.SEL B'D |

———— + B LINE

— — — — - B LINE

▨ SIGNAL LINE

▢ have critical characteristics.
mmended by the manufacture.

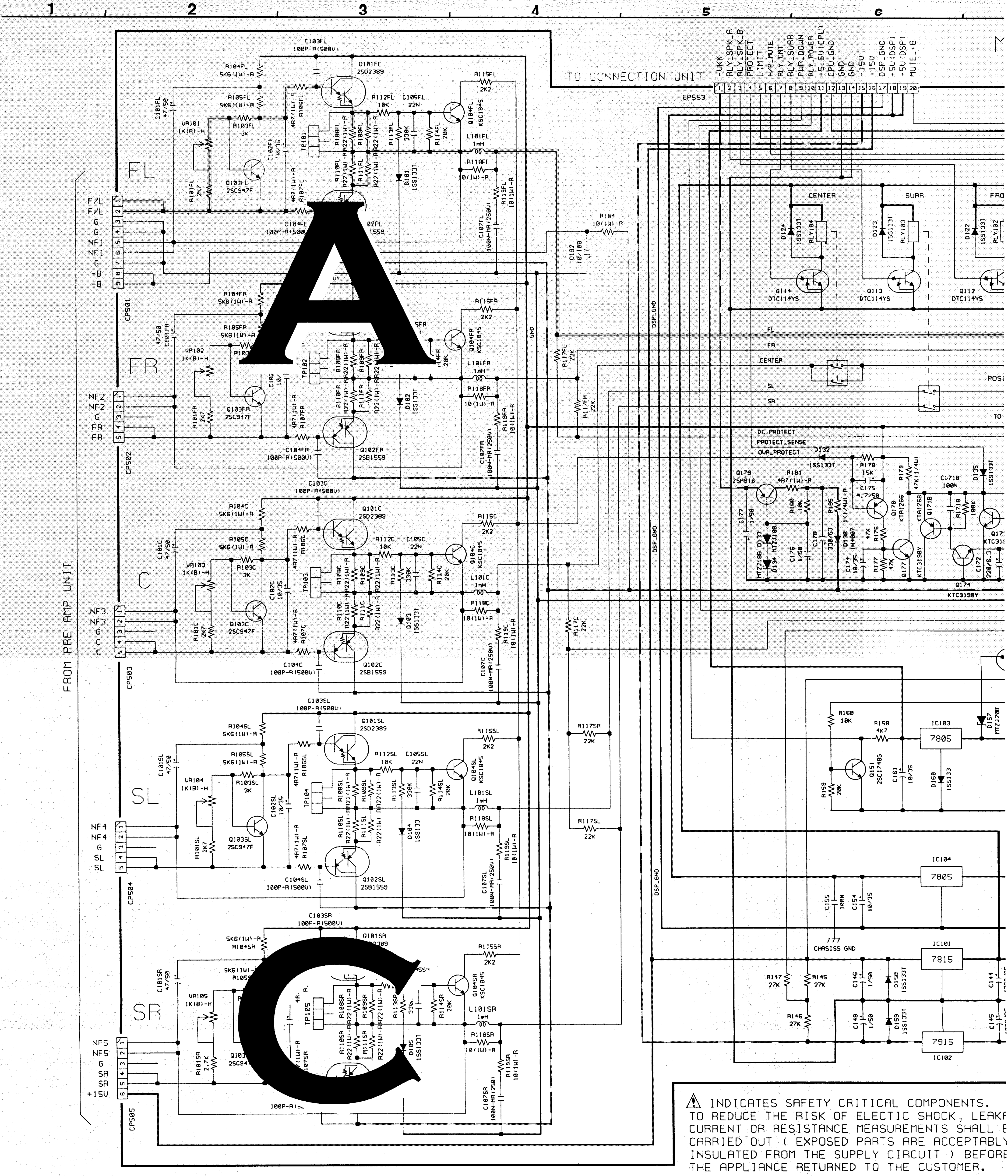
stomer, make sure you make either (1) a
to chassis resistance check. If the leakage
f the resistance from chassis to either side
kohms, the unit is defective.

omer until the problem is located and

## SCHEMATIC DIAGRAMS(5/7)

MAIN P.W.B. UNIT

# SCHEMATIC DIAGRAMS(5/7)


1
2
3
4
5
6
A
C
FROM PRE AMP UNIT
TO CONNECTION UNIT
CP553
-VKK
RLY_SPK_A
RLY_SPK_B
PROTECT
LIMIT
H/P_MUTE
RLY_CNT
RLY_SURR
PWR_DOWN
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+B
FL
FR
C
SL
SR
CP501
CP502
CP503
CP504
CP505
F/L
G
NF1
-B
NF2
NF3
NF4
NF5
+15V
Q101FL 2SD2389
Q102FL 2SB1559
Q103FL 2SC947F
Q104FL KSC1845
C103FL 100P-R(500V)
C104FL 100P-R(500V)
C101FL 47/50
C102FL 10/35
VR101 1K(B)-H
R104FL 5K6(1W)-R
R105FL 5K6(1W)-R
R103FL 3K
R101FL 2K7
R112FL 10K
C105FL 22N
R115FL 2K2
R113FL 330K
R114FL 20K
L101FL 1mH
R118FL 10(1W)-R
R119FL 10(1W)-R
C107FL 100N-MA(250V)
D101 1SS133T
TP101
R184 10(1W)-R
C182 10/100
R117FL 22K
R117FR 22K
R117C 22K
R117SR 22K
R117SL 22K
GND
DSP_GND
CENTER
SURR
FRO
D124 1SS133T
D123 1SS133T
D122 1SS133T
RLY104
RLY103
Q114 DTC114YS
Q113 DTC114YS
Q112 DTC114YS
POSI
TO
DC_PROTECT
PROTECT_SENSE
OVR_PROTECT
D132 1SS133T
Q179 2SA916
R181 4R7(1W)-R
R178 15K
C175 4.7/50
R179 47K(1/4W)
C171B 100N
Q178 KTA1266
Q177 KTC3198Y
Q174 KTC3198Y
C172 220/6.3
C177 1/50
D133 MTZJ18B
D134 MTZJ18B
C176 1/50
C178 330/63
D138 1N4007
C174 10/35
R177 47K
R176 47K
R180 10K
R185 1(1/4W)-R
R160 10K
R158 4K7
R159 20K
Q151 2SC1740S
C161 10/35
D160 1SS133
IC103 7805
D157 MTZJ20B
IC104 7805
C155 100N
C154 10/35
CHASISS GND
IC101 7815
IC102 7915
R147 27K
R145 27K
R146 27K
C146 1/50
C148 1/50
D158 1SS133T
D159 1SS133T
C144
C145

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
TO REDUCE THE RISK OF ELECTIC SHOCK, LEAKA
CURRENT OR RESISTANCE MEASUREMENTS SHALL B
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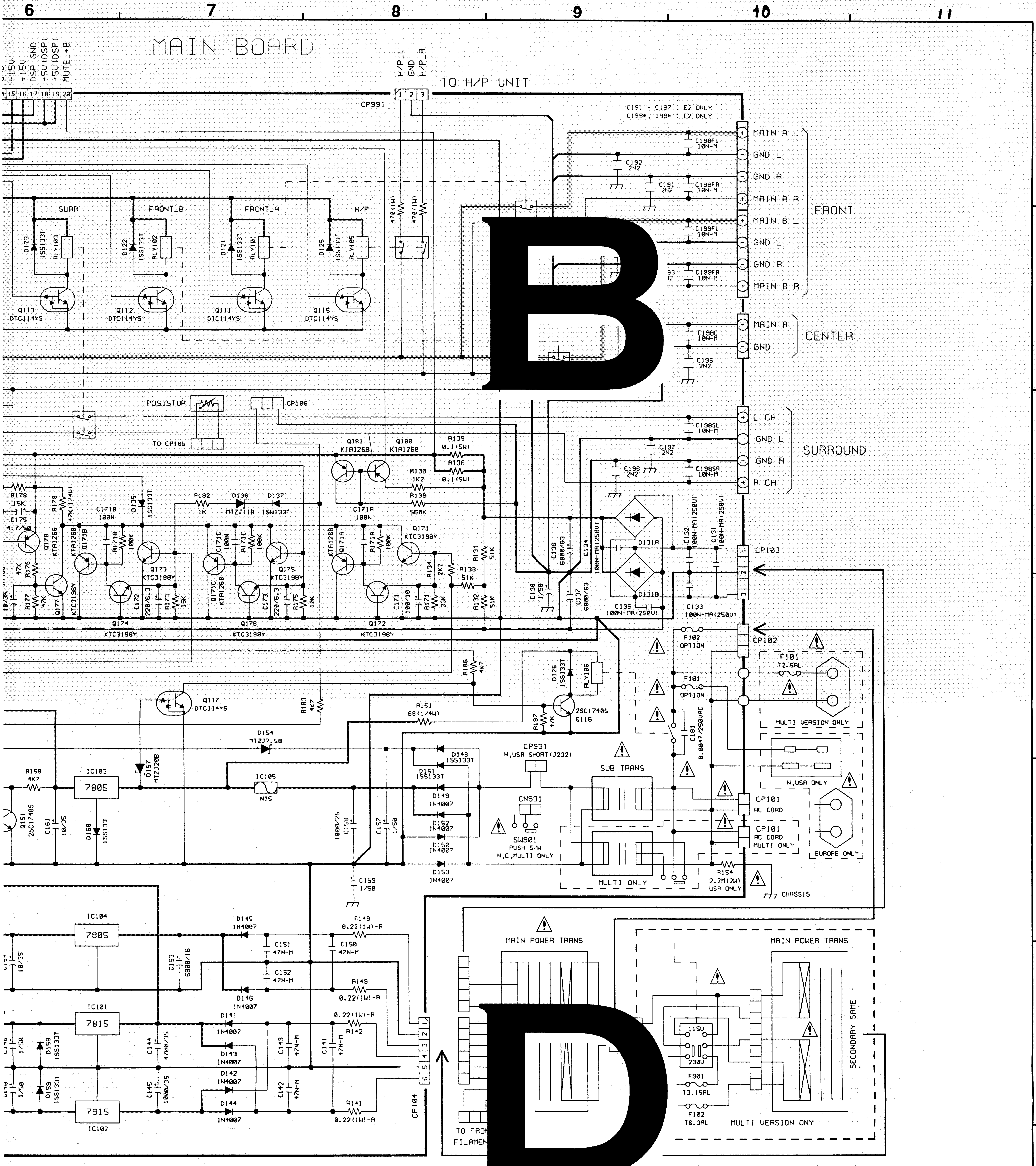

MAIN BOARD
6
7
8
9
10
11
A
B
C
D
E
F
TO H/P UNIT
CP991
H/P_L
GND
H/P_R
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+B
C191 - C197 : E2 ONLY
C198*, 199* : E2 ONLY
MAIN A L
GND L
GND R
MAIN A R
MAIN B L
GND L
GND R
MAIN B R
FRONT
MAIN A
GND
CENTER
L CH
GND L
GND R
R CH
SURROUND
SURR
FRONT_B
FRONT_A
H/P
RLY103
RLY102
RLY101
RLY105
Q113 DTC114YS
Q112 DTC114YS
Q111 DTC114YS
Q115 DTC114YS
POSISTOR
TO CP106
CP106
Q181 KTA1268
Q180 KTA1268
R135 0.1(5W)
R136 0.1(5W)
Q171 KTC3198Y
Q172 KTC3198Y
Q173 KTC3198Y
Q174 KTC3198Y
Q175 KTC3198Y
Q176 KTC3198Y
D131A
D131B
CP103
CP102
F102 OPTION
F101 OPTION
F101 T2.5AL
MULTI VERSION ONLY
N,USA ONLY
EUROPE ONLY
CP101 AC CORD
CP101 AC CORD MULTI ONLY
R154 2.2M(2W) USA ONLY
CHASSIS
SUB TRANS
MULTI ONLY
CP931 N,USA SHORT(J232)
CN931
SW901 PUSH S/W N,C,MULTI ONLY
Q116 2SC1740S
RLY106
Q117 DTC114YS
IC103 7805
IC105 NJ5
IC104 7805
IC101 7815
IC102 7915
Q151 2SC1740S
MAIN POWER TRANS
SECONDARY SAME
115V
230V
F901 T3.15AL
F102 T6.3AL
MULTI VERSION ONY
CP104
TO FRON FILAMEN
B
D

ITICAL COMPONENTS.
ELECTIC SHOCK, LEAKAGE
MEASUREMENTS SHALL BE
PARTS ARE ACCEPTABLY
PLY CIRCUIT ) BEFORE
TO THE CUSTOMER.

| | F101 | F102 | F901 | POSITION |
|---|---|---|---|---|
| N | T8A | T8A | X | MAIN B'D |
| E3 | 8A/125V | 8A/125V | X | MAIN B'D |
| E2 | T2.5AL | T3.15AL | X | MAIN B'D |
| C | X | T3.15AL | X | MAIN B'D |
| H,T,E1 | T2.5AL | T6.3AL | T3.15AL | V.SEL B'D |

——— +B LINE
– – – – B LINE
▨ SIGNAL LINE

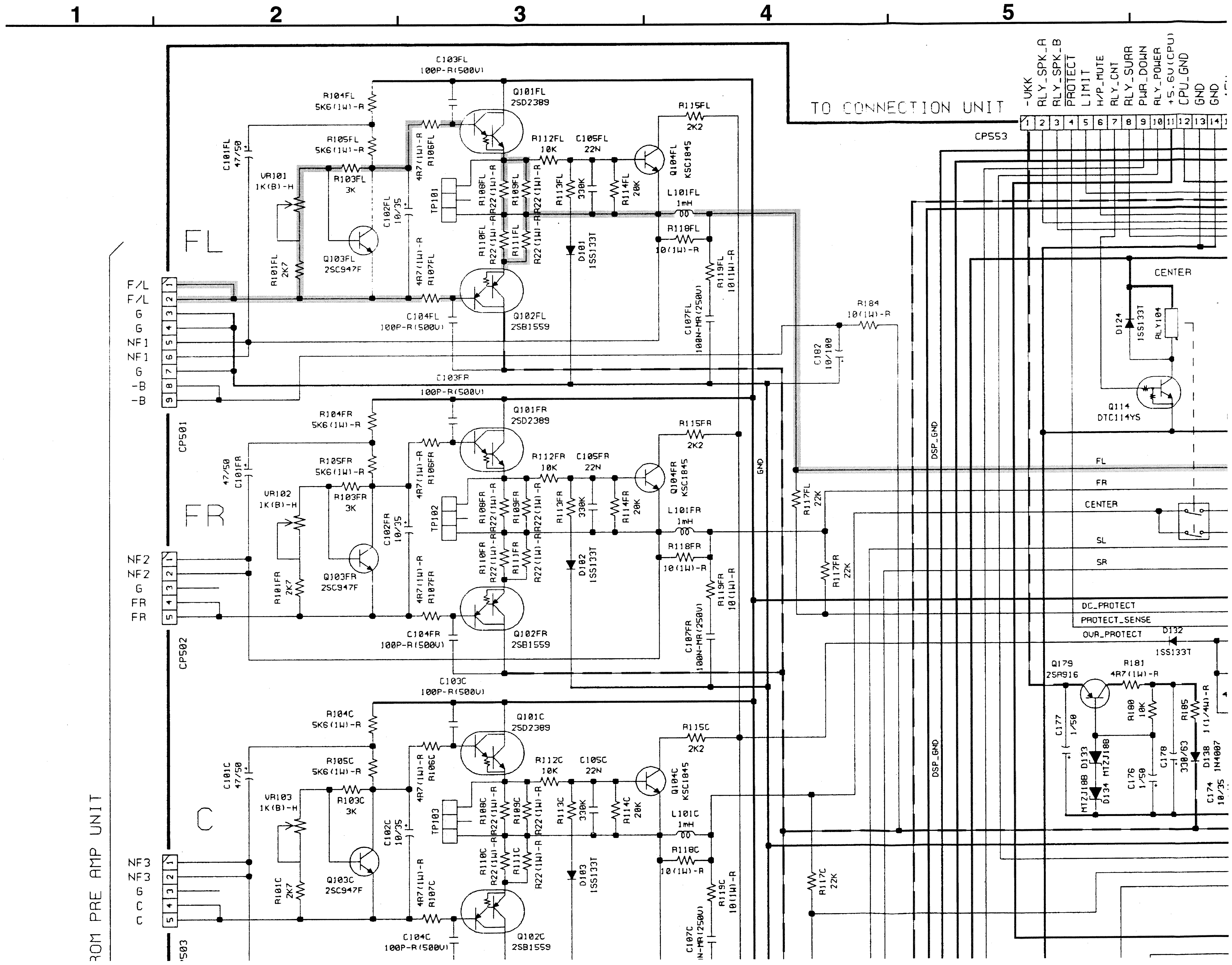
▭ have critical characteristics.
ommended by the manufacture.

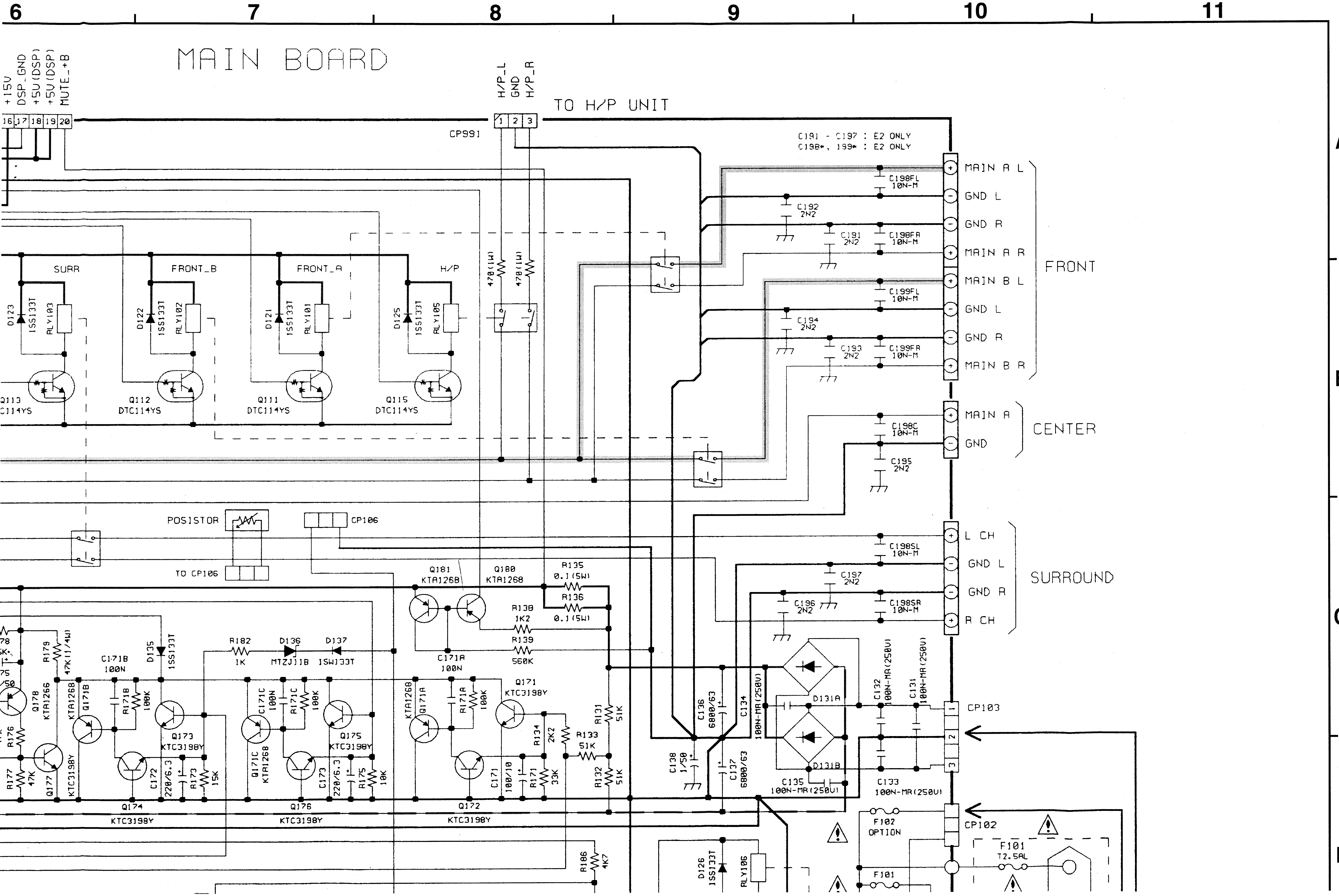
stomer, make sure you make either (1) a
to chassis resistance check. If the leakage
if the resistance from chassis to either side
kohms, the unit is defective.

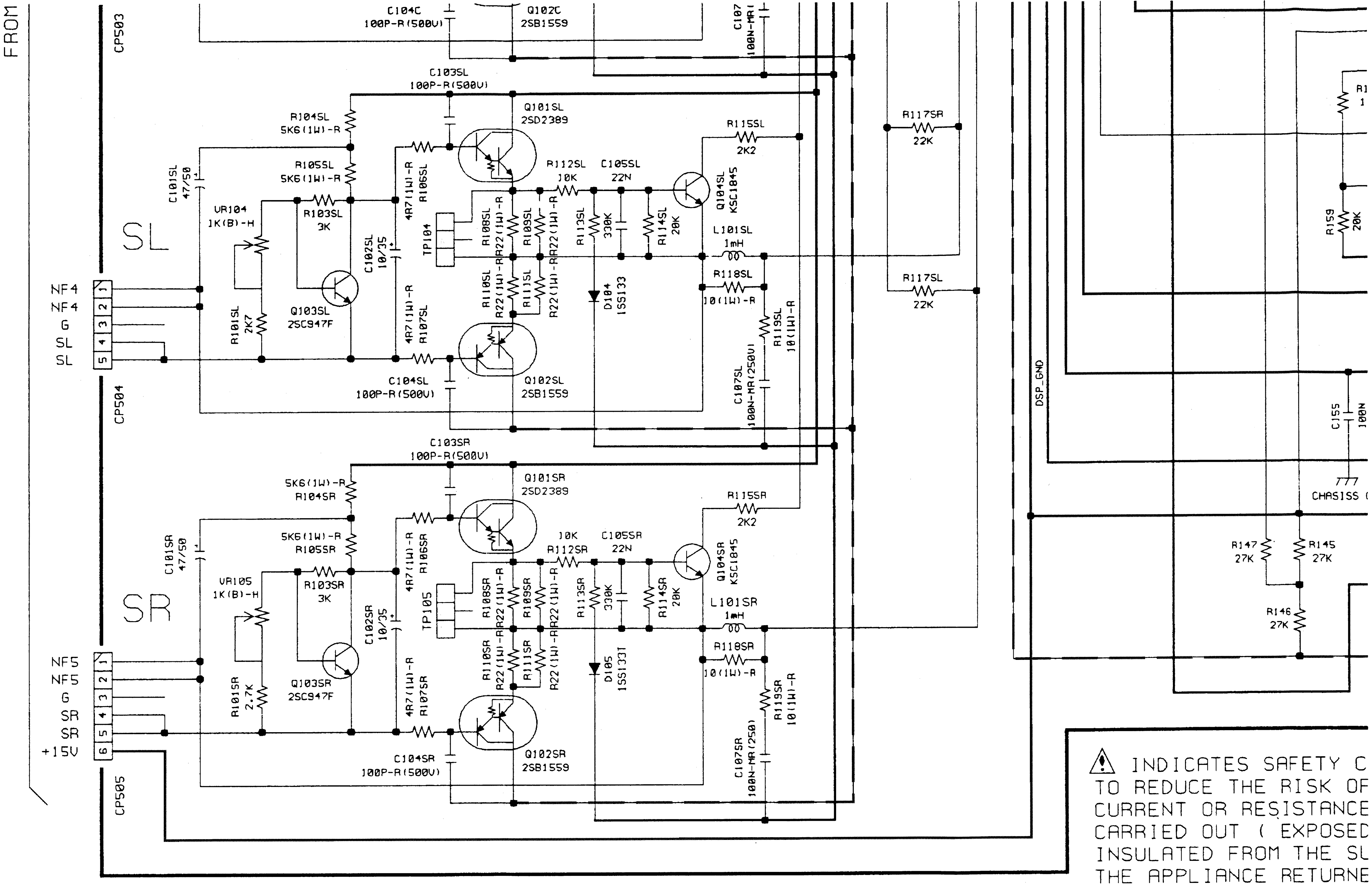
tomer until the problem is located and

## SCHEMATIC DIAGRAMS(5/7)
MAIN P.W.B. UNIT

# SCHEMATIC DIAGRAMS(5/7)


1
2
3
4
5
TO CONNECTION UNIT
-VKK
RLY_SPK_A
RLY_SPK_B
PROTECT
LIMIT
H/P_MUTE
RLY_CNT
RLY_SURR
PWR_DOWN
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
CP553
FL
FR
C
F/L
F/L
G
G
NF1
NF1
G
-B
-B
CP501
NF2
NF2
G
FR
FR
CP502
NF3
NF3
G
C
C
ROM PRE AMP UNIT
C103FL 100P-R(500V)
Q101FL 2SD2389
R104FL 5K6(1W)-R
R105FL 5K6(1W)-R
R103FL 3K
C101FL 47/50
VR101 1K(B)-H
R101FL 2K7
Q103FL 2SC947F
C102FL 10/35
4R7(1W)-R R106FL
4R7(1W)-R R107FL
TP101
R108FL R22(1W)-R
R109FL R22(1W)-R
R110FL R22(1W)-R
R111FL R22(1W)-R
R112FL 10K
C105FL 22N
R113FL 330K
R114FL 20K
D101 1SS133T
R115FL 2K2
Q104FL KSC1845
L101FL 1mH
R118FL 10(1W)-R
R119FL 10(1W)-R
C107FL 100N-MR(250V)
C104FL 100P-R(500V)
Q102FL 2SB1559
R184 10(1W)-R
C182 10/100
C103FR 100P-R(500V)
Q101FR 2SD2389
R104FR 5K6(1W)-R
R105FR 5K6(1W)-R
R103FR 3K
C101FR 47/50
VR102 1K(B)-H
R101FR 2K7
Q103FR 2SC947F
C102FR 10/35
4R7(1W)-R R106FR
4R7(1W)-R R107FR
TP102
R108FR R22(1W)-R
R109FR R22(1W)-R
R110FR R22(1W)-R
R111FR R22(1W)-R
R112FR 10K
C105FR 22N
R113FR 330K
R114FR 20K
D102 1SS133T
R115FR 2K2
Q104FR KSC1845
L101FR 1mH
R118FR 10(1W)-R
R119FR 10(1W)-R
C107FR 100N-MR(250V)
C104FR 100P-R(500V)
Q102FR 2SB1559
R117FL 22K
R117FR 22K
GND
DSP_GND
C103C 100P-R(500V)
Q101C 2SD2389
R104C 5K6(1W)-R
R105C 5K6(1W)-R
R103C 3K
C101C 47/50
VR103 1K(B)-H
R101C 2K7
Q103C 2SC947F
C102C 10/35
4R7(1W)-R R106C
4R7(1W)-R R107C
TP103
R108C R22(1W)-R
R109C R22(1W)-R
R110C R22(1W)-R
R111C R22(1W)-R
R112C 10K
C105C 22N
R113C 330K
R114C 20K
D103 1SS133T
R115C 2K2
Q104C KSC1845
L101C 1mH
R118C 10(1W)-R
R119C 10(1W)-R
C107C 100N-MR(250V)
C104C 100P-R(500V)
Q102C 2SB1559
R117C 22K
CENTER
D124 1SS133T
RLY104
Q114 DTC114YS
FL
FR
CENTER
SL
SR
DC_PROTECT
PROTECT_SENSE
OVR_PROTECT
D132 1SS133T
Q179 2SA916
R181 4R7(1W)-R
C177 1/50
R180 10K
R185 1(1/4W)-R
D133 MTZJ18B
D134 MTZJ18B
C176 1/50
C178 330/63
D138 1N4007
C174 10/35


6
7
8
9
10
11
A
B
C
D
MAIN BOARD
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+B
16 17 18 19 20
H/P_L
GND
H/P_R
1 2 3
CP991
TO H/P UNIT
C191 - C197 : E2 ONLY
C198*, 199* : E2 ONLY
MAIN A L
GND L
GND R
MAIN A R
MAIN B L
GND L
GND R
MAIN B R
FRONT
MAIN A
GND
CENTER
L CH
GND L
GND R
R CH
SURROUND
C198FL 10N-M
C192 2N2
C191 2N2
C198FR 10N-M
C199FL 10N-M
C194 2N2
C193 2N2
C199FR 10N-M
C198C 10N-M
C195 2N2
C198SL 10N-M
C197 2N2
C196 2N2
C198SR 10N-M
SURR
FRONT_B
FRONT_A
H/P
D123 1SS133T
RLY103
D122 1SS133T
RLY102
D121 1SS133T
RLY101
D125 1SS133T
RLY105
470(1W)
470(1W)
Q113 DTC114YS
Q112 DTC114YS
Q111 DTC114YS
Q115 DTC114YS
POSISTOR
CP106
TO CP106
Q181 KTA1268
Q180 KTA1268
R135 0.1(5W)
R136 0.1(5W)
R138 1K2
R139 560K
C171A 100N
R182 1K
D136 MTZJ11B
D137 1SWJ33T
D135 1SS133T
C171B 100N
R178
R179 47K(1/4W)
Q178 KTA1266
Q171B KTA1268
R171B 100K
Q173 KTC3198Y
R176
R177 47K
Q177 KTC3198Y
Q174 KTC3198Y
C172 220/6.3
R173 15K
C171C 100N
Q171C KTA1268
R171C 100K
Q175 KTC3198Y
Q176 KTC3198Y
C173 220/6.3
R175 10K
Q171A KTA1268
R171A 100K
Q171 KTC3198Y
Q172 KTC3198Y
C171 100/10
R171 33K
R134 2K2
R133 51K
R131 51K
R132 51K
C138 1/50
C136 6800/63
C137 6800/63
C134 100N-MR(250V)
D131A
D131B
C135 100N-MR(250V)
C132 100N-MR(250V)
C131 100N-MR(250V)
C133 100N-MR(250V)
CP103
1
2
3
CP102
F102 OPTION
F101 T2.5AL
F101
R186 4K7
D126 1SS133T
RLY106



FROM
CP503
CP504
CP505
C104C
100P-R(500V)
Q102C
2SB1559
C107
100N-MR(
C103SL
100P-R(500V)
Q101SL
2SD2389
R104SL
5K6(1W)-R
R105SL
5K6(1W)-R
C101SL
47/50
VR104
1K(B)-H
R103SL
3K
R106SL
4R7(1W)-R
R112SL
10K
C105SL
22N
R115SL
2K2
Q104SL
KSC1845
R117SR
22K
TP104
R108SL
R22(1W)-R
R109SL
R22(1W)-R
R113SL
330K
R114SL
20K
L101SL
1mH
SL
C102SL
10/35
Q103SL
2SC947F
R101SL
2K7
R107SL
4R7(1W)-R
R110SL
R22(1W)-R
R111SL
R22(1W)-R
D104
1SS133
R118SL
10(1W)-R
R119SL
10(1W)-R
R117SL
22K
NF4
NF4
G
SL
SL
C104SL
100P-R(500V)
Q102SL
2SB1559
C107SL
100N-MR(250V)
DSP_GND
C103SR
100P-R(500V)
Q101SR
2SD2389
5K6(1W)-R
R104SR
R115SR
2K2
C101SR
47/50
5K6(1W)-R
R105SR
R106SR
4R7(1W)-R
10K
R112SR
C105SR
22N
Q104SR
KSC1845
VR105
1K(B)-H
R103SR
3K
TP105
R108SR
R22(1W)-R
R109SR
R22(1W)-R
R113SR
330K
R114SR
20K
L101SR
1mH
SR
C102SR
10/35
Q103SR
2SC947F
R101SR
2.7K
R107SR
4R7(1W)-R
R110SR
R22(1W)-R
R111SR
R22(1W)-R
D105
1SS133
R118SR
10(1W)-R
R119SR
10(1W)-R
NF5
NF5
G
SR
SR
+15V
C104SR
100P-R(500V)
Q102SR
2SB1559
C107SR
100N-MR(250)
R159
20K
C155
100N
CHASISS
R147
27K
R145
27K
R146
27K

⚠ INDICATES SAFETY C
TO REDUCE THE RISK OF
CURRENT OR RESISTANCE
CARRIED OUT ( EXPOSED
INSULATED FROM THE SU
THE APPLIANCE RETURNE

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

## WARNING:

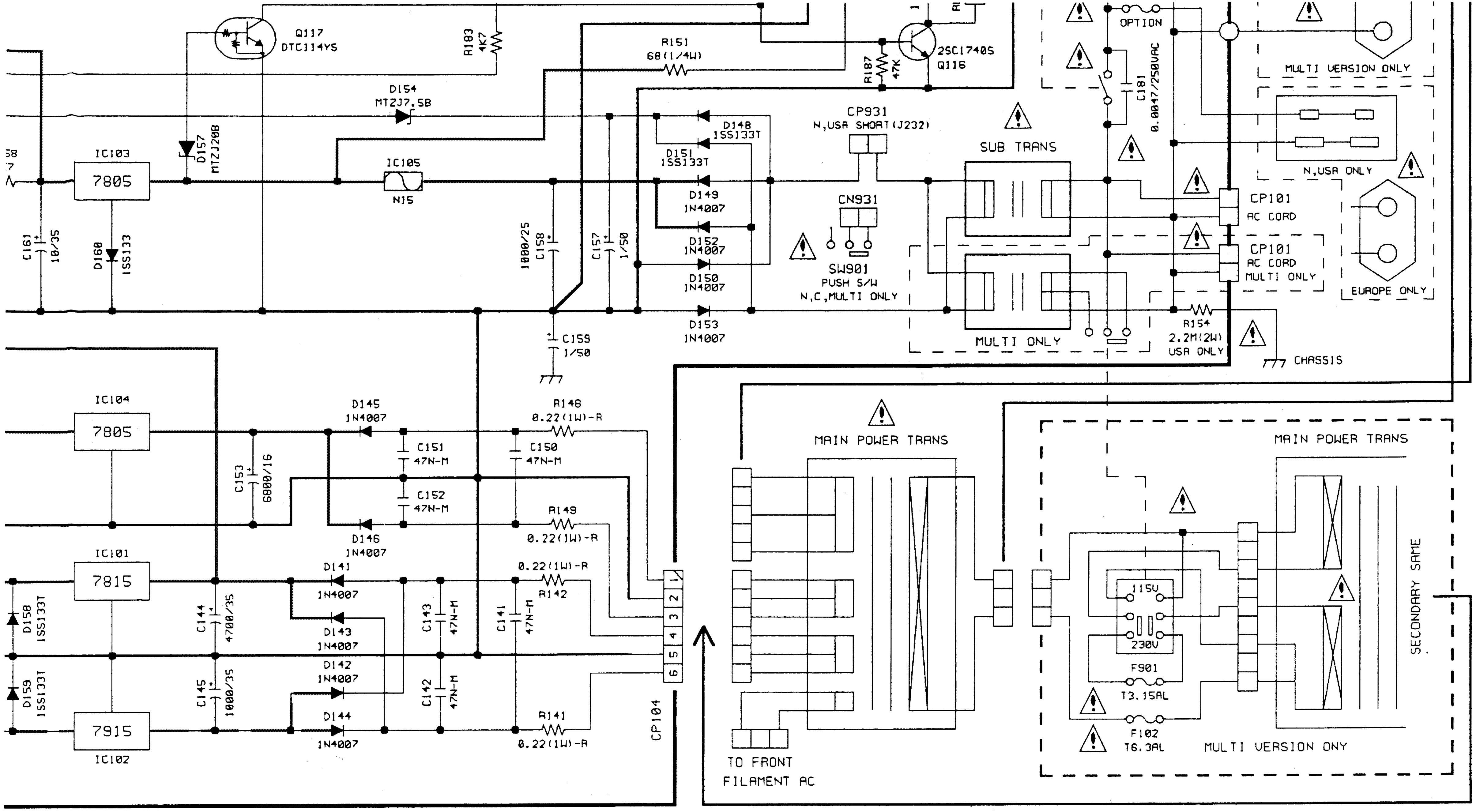
Parts marked with this symbol
Use ONLY replacement parts re

## CAUTION:

Before returning the unit to the
leakage current check or (2) a li
current exceeds 0.5 milliamps,
of the power card is less than 4

## WARNING:

DO NOT return the unit to the c
corrected.


Q117
DTC114YS
R183
4K7
R151
68(1/4W)
R187
47K
2SC1740S
Q116
OPTION
C181
0.0047/250VAC
MULTI VERSION ONLY
D154
MTZJ7.5B
D157
MTZJ20B
IC103
7805
IC105
NJ5
D148
1SS133T
D151
1SS133T
D149
1N4007
D152
1N4007
D150
1N4007
D153
1N4007
CP931
N,USA SHORT(J232)
CN931
SW901
PUSH S/W
N,C,MULTI ONLY
SUB TRANS
N,USA ONLY
CP101
AC CORD
CP101
AC CORD
MULTI ONLY
EUROPE ONLY
R154
2.2M(2W)
USA ONLY
CHASSIS
MULTI ONLY
C161
10/35
D160
1SS133
C158
1000/25
C157
1/50
C159
1/50
IC104
7805
D145
1N4007
C151
47N-M
C152
47N-M
C153
6800/16
R148
0.22(1W)-R
C150
47N-M
R149
0.22(1W)-R
D146
1N4007
IC101
7815
D141
1N4007
D143
1N4007
D142
1N4007
D144
1N4007
C144
4700/35
C145
1000/35
C143
47N-M
C142
47N-M
C141
47N-M
0.22(1W)-R
R142
R141
0.22(1W)-R
D158
1SS133T
D159
1SS133T
IC102
7915
CP104
1
2
3
4
5
6
MAIN POWER TRANS
TO FRONT
FILAMENT AC
MAIN POWER TRANS
115V
230V
F901
T3.15AL
F102
T6.3AL
SECONDARY SAME
MULTI VERSION ONY

E

F

G

H

AL COMPONENTS.
TIC SHOCK, LEAKAGE
SUREMENTS SHALL BE
S ARE ACCEPTABLY
CIRCUIT ) BEFORE
THE CUSTOMER.

|  | F101 | F102 | F901 | POSITION |
|---|---|---|---|---|
| N | T8A | T8A | X | MAIN B'D |
| E3 | 8A/125V | 8A/125V | X | MAIN B'D |
| E2 | T2.5AL | T3.15AL | X | MAIN B'D |
| C | X | T3.15AL | X | MAIN B'D |
| H,T,E1 | T2.5AL | T6.3AL | T3.15AL | V.SEL B'D |

—— +B LINE

– – – -B LINE

▨ SIGNAL LINE

ve critical characteristics.
ded by the manufacture.

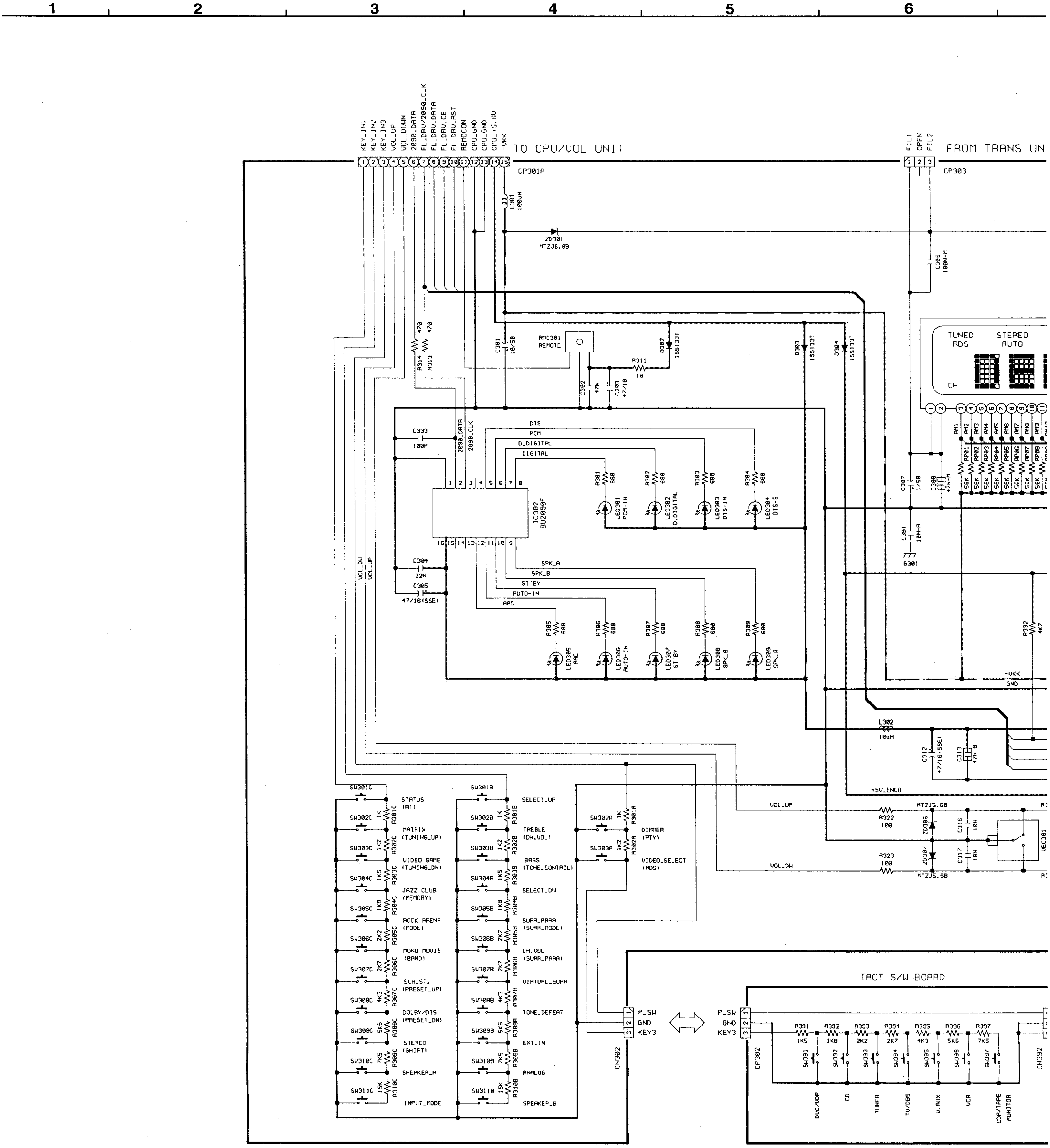
, make sure you make either (1) a
assis resistance check. If the leakage
esistance from chassis to either side
, the unit is defective.

until the problem is located and

# SCHEMATIC DIAGRAMS(5/7)

MAIN P.W.B. UNIT

# SCHEMATIC DIAGRAMS(6/7)



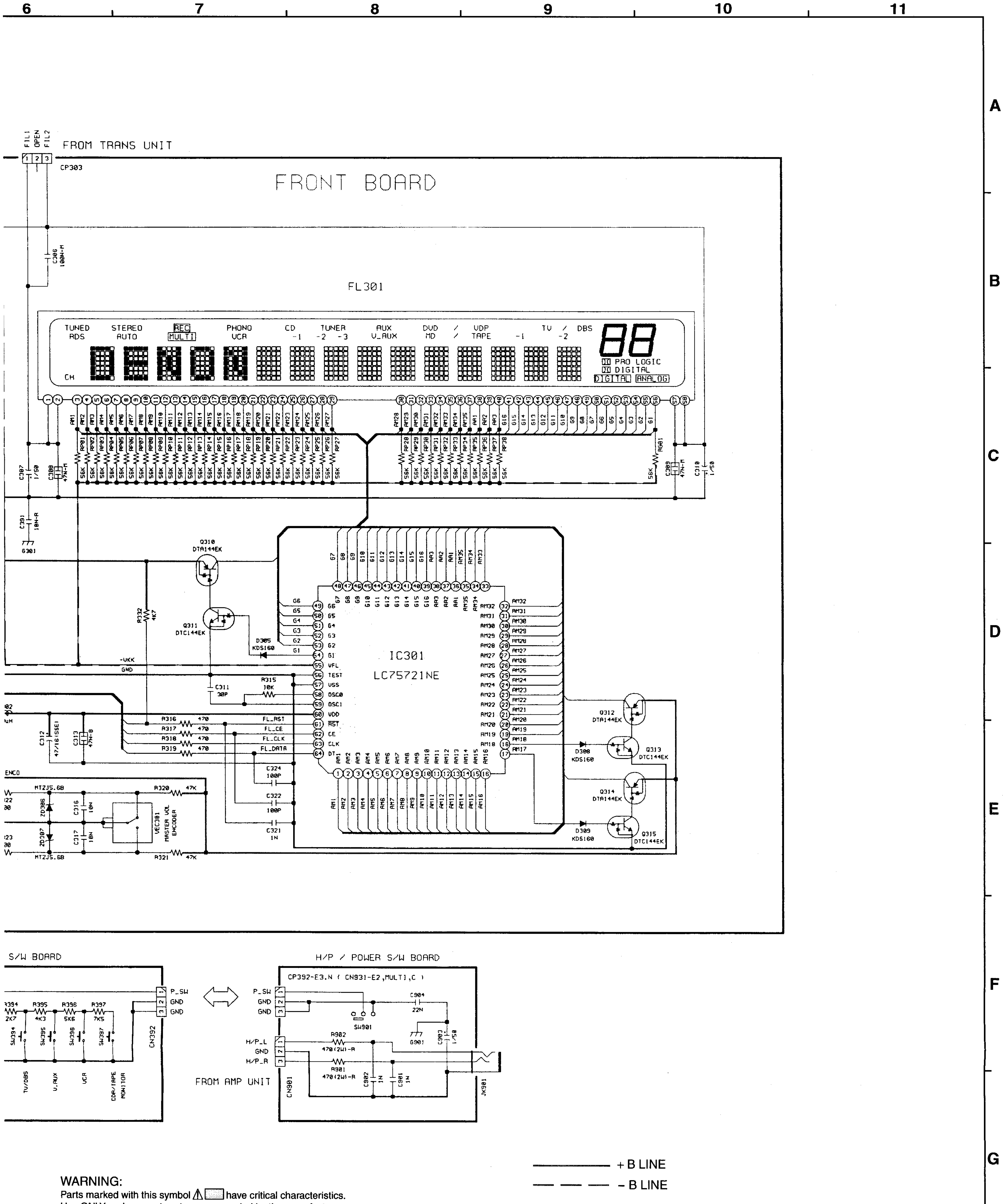
1
2
3
4
5
6
KEY_IN1
KEY_IN2
KEY_IN3
VOL_UP
VOL_DOWN
2090_DATA
FL_DRV/2090_CLK
FL_DRV_DATA
FL_DRV_CE
FL_DRV_RST
REMOCON
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
TO CPU/VOL UNIT
CP301A
L301 100uH
ZD301 MTZJ6.8B
FIL1
OPEN
FIL2
FROM TRANS UN
CP303
C306 100N-M
R314 470
R313 470
C301 10/50
RMC301 REMOTE
D302 1SS133T
R311 10
C302 47N
C303 47/10
D303 1SS133T
D304 1SS133T
TUNED
RDS
STEREO
AUTO
CH
C333 100P
2090_DATA
2090_CLK
DTS
PCM
D_DIGITAL
DIGITAL
IC302 BU2090F
R301 680
R302 680
R303 680
R304 680
LED301 PCM-IN
LED302 D.DIGITAL
LED303 DTS-IN
LED304 DTS-S
C307 1/50
C308 47N-M
C391 10N-A
G301
RP01
56K
C304 22N
C305 47/16(SSE)
SPK_A
SPK_B
ST'BY
AUTO-IN
ARC
VOL_DW
VOL_UP
R305 680
R306 680
R307 680
R308 680
R309 680
LED305 ARC
LED306 AUTO-IN
LED307 ST BY
LED308 SPK_B
LED309 SPK_A
R332 4K7
-VKK
GND
L302 10uH
C312 47/16(SSE)
C313 47N-B
+5V_ENCO
SW301C
STATUS (RT)
SW302C 1K R301C
MATRIX (TUNING_UP)
SW303C 1K2 R302C
VIDEO GAME (TUNING_DN)
SW304C 1K5 R303C
JAZZ CLUB (MEMORY)
SW305C 1K8 R304C
ROCK ARENA (MODE)
SW306C 2K2 R305C
MONO MOVIE (BAND)
SW307C 2K7 R306C
5CH_ST. (PRESET_UP)
SW308C 4K3 R307C
DOLBY/DTS (PRESET_DN)
SW309C 5K6 R308C
STEREO (SHIFT)
SW310C 7K5 R309C
SPEAKER_A
SW311C 15K R310C
INPUT_MODE
SW301B
SELECT_UP
SW302B 1K R301B
TREBLE (CH.VOL)
SW303B 1K2 R302B
BASS (TONE_CONTROL)
SW304B 1K5 R303B
SELECT_DN
SW305B 1K8 R304B
SURR_PARA (SURR_MODE)
SW306B 2K2 R305B
CH.VOL (SURR_PARA)
SW307B 2K7 R306B
VIRTUAL_SURR
SW308B 4K3 R307B
TONE_DEFEAT
SW309B 5K6 R308B
EXT.IN
SW310B 7K5 R309B
ANALOG
SW311B 15K R310B
SPEAKER_B
SW302A 1K R301A
DIMMER (PTY)
SW303A 1K2 R302A
VIDEO_SELECT (RDS)
VOL_UP
VOL_DW
R322 100
R323 100
MTZJ5.6B
ZD306
ZD307
C316 10N
C317 10N
VEC301
TACT S/W BOARD
P_SW
GND
KEY3
CN302
CP302
R391 1K5
R392 1K8
R393 2K2
R394 2K7
R395 4K3
R396 5K6
R397 7K5
SW391 DVD/VDP
SW392 CD
SW393 TUNER
SW394 TV/DBS
SW395 V.AUX
SW396 VCR
SW397 CDR/TAPE MONITOR
CN392

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this
Use ONLY replacemen

CAUTION:
Before returning the un
leakage current check
current exceeds 0.5 mi
of the power card is les

WARNING:
DO NOT return the uni
corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
H
FIL1 OPEN FIL2
FROM TRANS UNIT
CP303
FRONT BOARD
C306 100N-H
FL301
TUNED RDS
STEREO AUTO
REC MULTI
PHONO VCR
CD -1
TUNER -2 -3
AUX V_AUX
DVD MD
VDP TAPE
TV / DBS
DIGITAL ANALOG
PRO LOGIC
DIGITAL
CH
RP01–RP38 56K
R601 56K
C307 1/50
C308 47N-H
C309 47N-H
C310 1/50
C391 10N-H
G301
Q310 DTA144EK
Q311 DTC144EK
R332 4K7
D305 KDS160
-VKK
GND
C311 30P
R315 10K
R316 470
R317 470
R318 470
R319 470
FL_RST
FL_CE
FL_CLK
FL_DATA
C312 47/16(SSE)
C313 47N-B
C324 100P
C322 100P
C321 1N
IC301
LC75721NE
VFL
TEST
VSS
OSC0
OSC1
VDD
RST
CE
CLK
DT
Q312 DTA144EK
Q313 DTC144EK
D308 KDS160
Q314 DTA144EK
Q315 DTC144EK
D309 KDS160
ENCO
MTZJ5.6B
ZD306
ZD307
C316 10N
C317 10N
VEC301 MASTER VOL ENCODER
R320 47K
R321 47K
S/W BOARD
R394 2K7
R395 4K3
R396 5K6
R397 7K5
SW394
SW395
SW396
SW397
TV/DBS
V.AUX
VCR
CDR/TAPE MONITOR
P_SW
GND
GND
CN392
H/P / POWER S/W BOARD
CP392-E3.N ( CN931-E2,MULTI,C )
C904 22N
SW901
G901
C903 1/50
R902 470(2W)-R
R901 470(2W)-R
C902 1N
C901 1N
H/P_L
GND
H/P_R
FROM AMP UNIT
CN901
JK901

———————— +B LINE

— — — — — -B LINE

WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

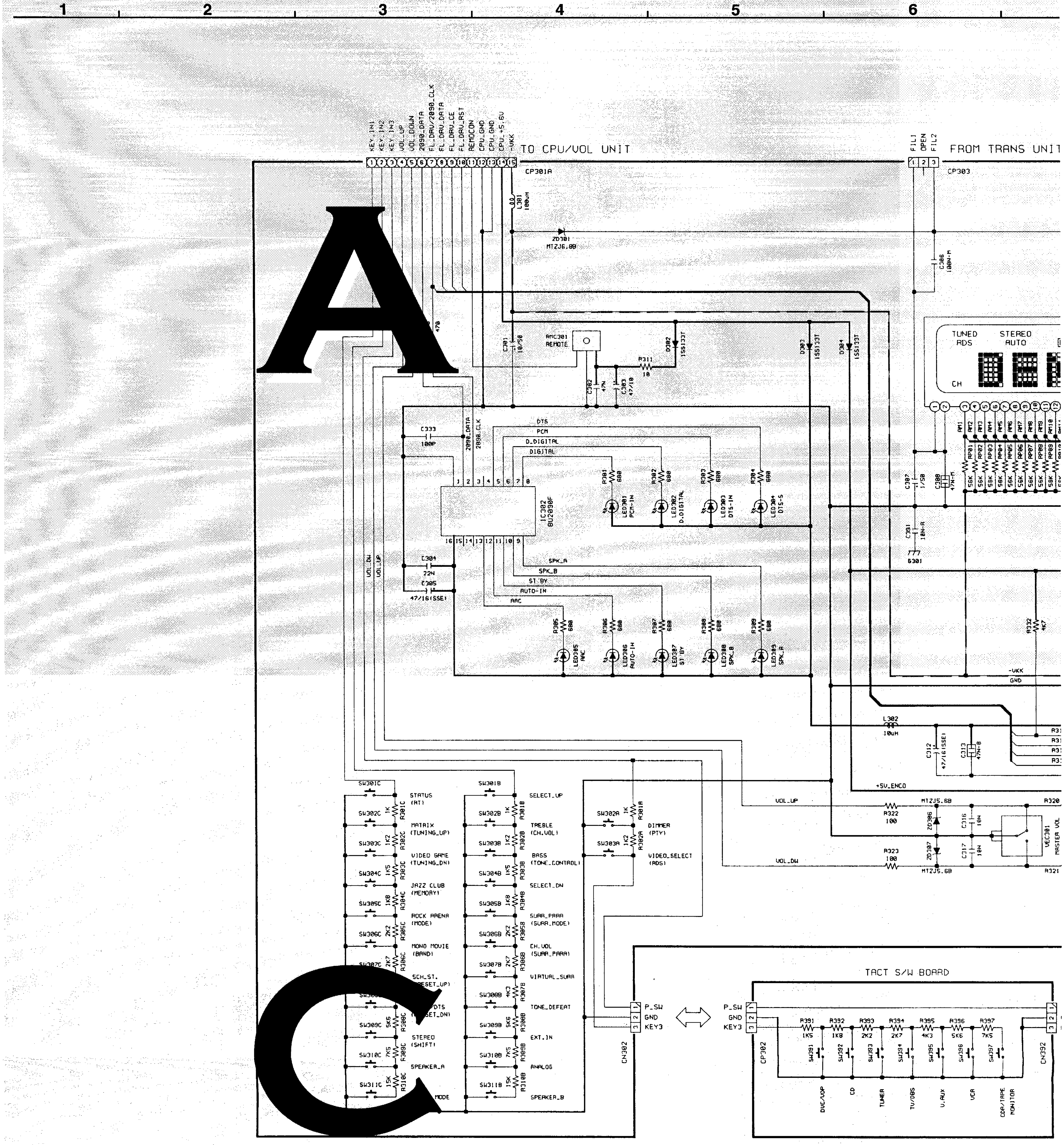
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

## SCHEMATIC DIAGRAMS(6/7)

FRONT P.W.B. UNIT
TACT S/W P.W.B. UNIT
H/P & POWER S/W P.W.B. UNIT

# SCHEMATIC DIAGRAMS(6/7)



1
2
3
4
5
6
A
C
KEY_IN1
KEY_IN2
KEY_IN3
VOL_UP
VOL_DOWN
2090_DATA
FL_DRV/2090_CLK
FL_DRV_DATA
FL_DRV_CE
FL_DRV_RST
REMOCON
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
TO CPU/VOL UNIT
CP301A
FIL1
OPEN
FIL2
FROM TRANS UNIT
CP303
L301
100uH
ZD301
MTZJ6.8B
C306
100N-M
RMC301
REMOTE
C301
10/50
R311
10
C302
47N
C303
47/10
D302
1SS133T
D303
1SS133T
D304
1SS133T
TUNED
RDS
STEREO
AUTO
CH
C333
100P
2090_DATA
2090_CLK
DTS
PCM
D_DIGITAL
DIGITAL
IC302
BU2090F
R301 680
R302 680
R303 680
R304 680
LED301 PCM-IN
LED302 D.DIGITAL
LED303 DTS-IN
LED304 DTS-S
C304
22N
C305
47/16(SSE)
VOL_DW
VOL_UP
SPK_A
SPK_B
ST.BY
AUTO-IN
AAC
R305 680
R306 680
R307 680
R308 680
R309 680
LED305 AAC
LED306 AUTO-IN
LED307 ST'BY
LED308 SPK_B
LED309 SPK_A
C307
1/50
C308
47N-M
C391
10N-R
G301
R332
4K7
-VKK
GND
L302
10uH
C312
47/16(SSE)
C313
47N-B
+5V_ENCO
VOL_UP
R322
100
ZD306
MTZJ5.6B
C316
10N
C317
10N
ZD307
MTZJ5.6B
R323
100
VOL_DW
VEC301
MASTER VOL
R320
R321
SW301C
STATUS (RT)
SW302C
MATRIX (TUNING_UP)
SW303C
VIDEO GAME (TUNING_DN)
SW304C
JAZZ CLUB (MEMORY)
SW305C
ROCK ARENA (MODE)
SW306C
MONO MOVIE (BAND)
SW307C
SCH_ST. (PRESET_UP)
DTS (PRESET_DN)
SW309C
STEREO (SHIFT)
SW310C
SPEAKER_A
SW311C
MODE
SW301B
SELECT_UP
SW302B
TREBLE (CH.VOL)
SW303B
BASS (TONE_CONTROL)
SW304B
SELECT_DN
SW305B
SURR_PARA (SURR_MODE)
SW306B
CH.VOL (SURR_PARA)
SW307B
VIRTUAL_SURR
SW308B
TONE_DEFEAT
SW309B
EXT.IN
SW310B
ANALOG
SW311B
SPEAKER_B
SW302A
DIMMER (PTY)
SW303A
VIDEO_SELECT (RDS)
R301A
R302A
1K
1K2
1K5
1K8
2K2
2K7
4K3
5K6
7K5
15K
CN302
P_SW
GND
KEY3
TACT S/W BOARD
CP302
CN392
R391 1K5
R392 1K8
R393 2K2
R394 2K7
R395 4K3
R396 5K6
R397 7K5
SW391
SW392
SW393
SW394
SW395
SW396
SW397
DVD/LDP
CD
TUNER
TV/DBS
V.AUX
VCR
CDR/TAPE MONITOR

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:

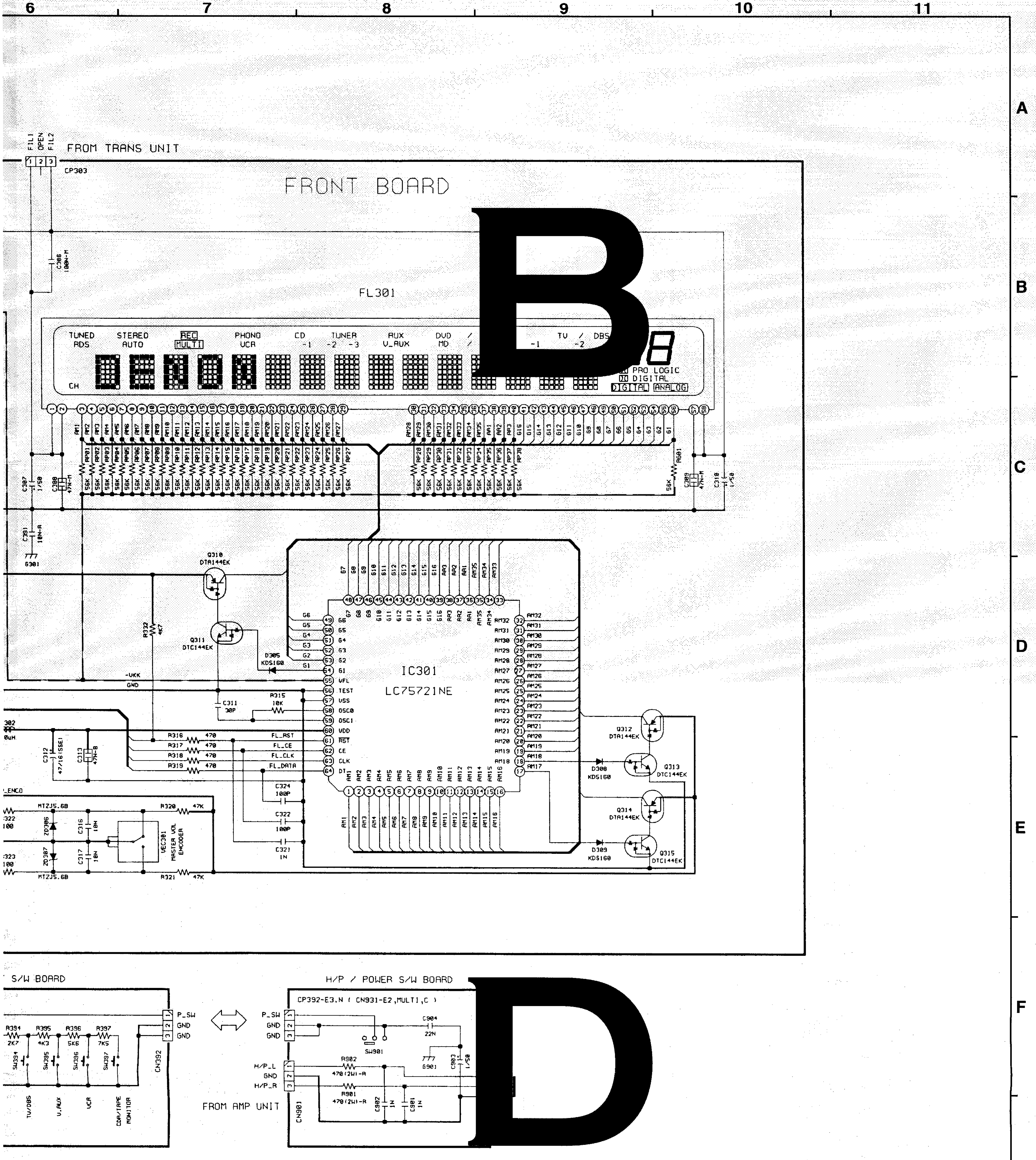
Parts marked with this sy
Use ONLY replacement p

CAUTION:

Before returning the unit t
leakage current check or
current exceeds 0.5 millia
of the power card is less t

WARNING:

DO NOT return the unit to
corrected.


6
7
8
9
10
11
A
B
C
D
E
F
FIL1 OPEN FIL2
FROM TRANS UNIT
CP303
FRONT BOARD
B
C306 100N-M
FL301
TUNED RDS
STEREO AUTO
REC MULTI
PHONO VCR
CD -1
TUNER -2 -3
AUX V_AUX
DVD MD
TV / DBS
PRO LOGIC
DIGITAL
DIGITAL ANALOG
CH
RP01–RP38 56K
R601 56K
C307 1/50
C308 47N-M
C309 47N-M
C310 1/50
C301 10N-R
G301
Q310 DTA144EK
Q311 DTC144EK
R332 4K7
D305 KDS160
-VKK
GND
IC301
LC75721NE
C311 30P
R315 10K
R316 470
R317 470
R318 470
R319 470
FL_RST
FL_CE
FL_CLK
FL_DATA
C324 100P
C322 100P
C321 1N
C312 47/16(SSE)
C313 47N-B
MTZJ5.6B
ZD306
ZD307
C316 10N
C317 10N
VEC301 MASTER VOL ENCODER
R320 47K
R321 47K
Q312 DTA144EK
Q313 DTC144EK
Q314 DTA144EK
Q315 DTC144EK
D308 KDS160
D309 KDS160
S/W BOARD
P_SW
GND
GND
CN392
R394 2K7
R395 4K3
R396 5K6
R397 7K5
SW394
SW395
SW396
SW397
TV/DBS
V.AUX
VCR
CDR/TAPE MONITOR
H/P / POWER S/W BOARD
CP392-E3.N ( CN931-E2,MULTI,C )
C904 22N
SW901
R902 470(2W)-R
R901 470(2W)-R
G901
C903 1/50
C902 1N
C901 1N
H/P_L
GND
H/P_R
CN901
FROM AMP UNIT
D

——— + B LINE

— — — - B LINE

G

WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

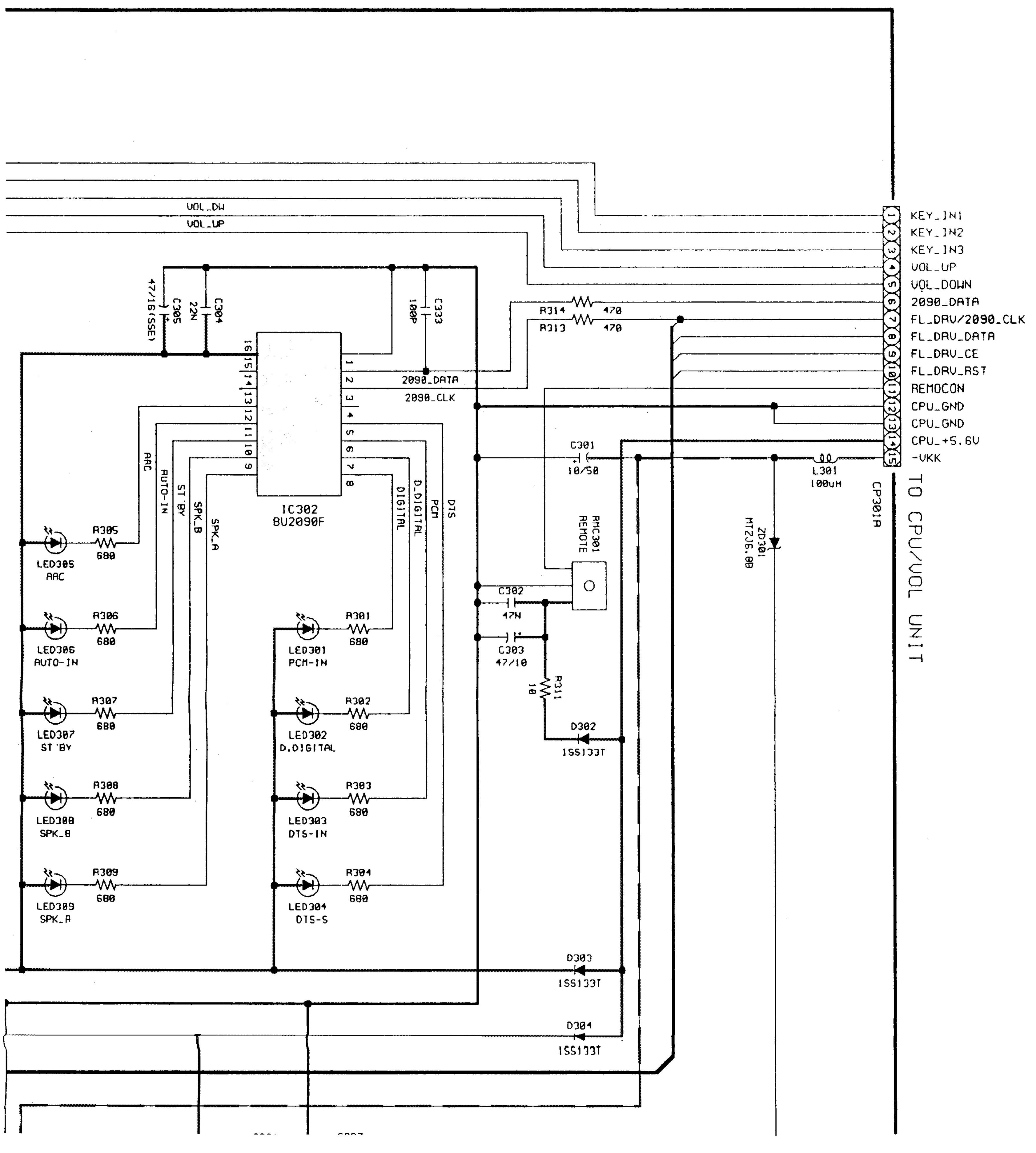
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

H

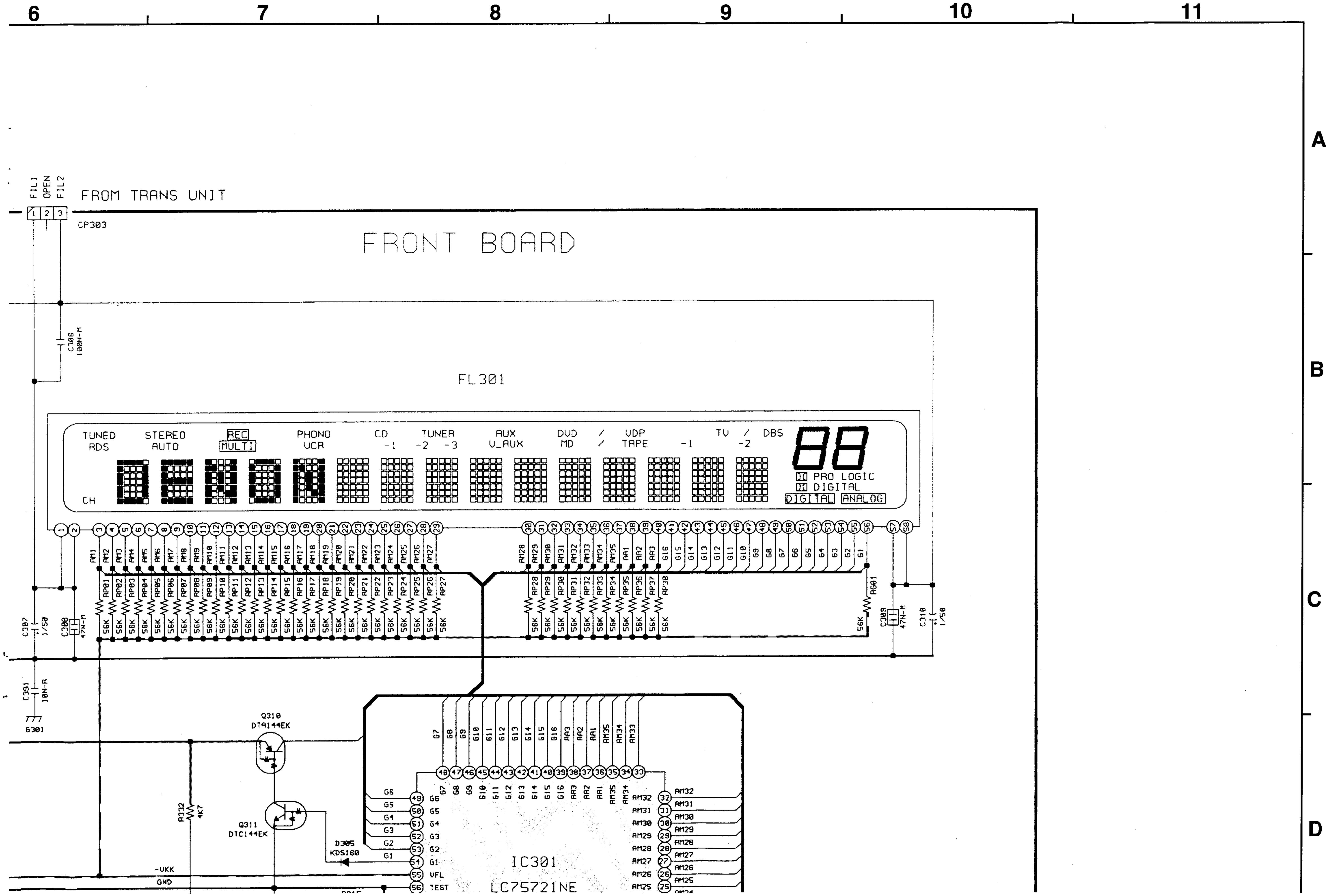
## SCHEMATIC DIAGRAMS(6/7)

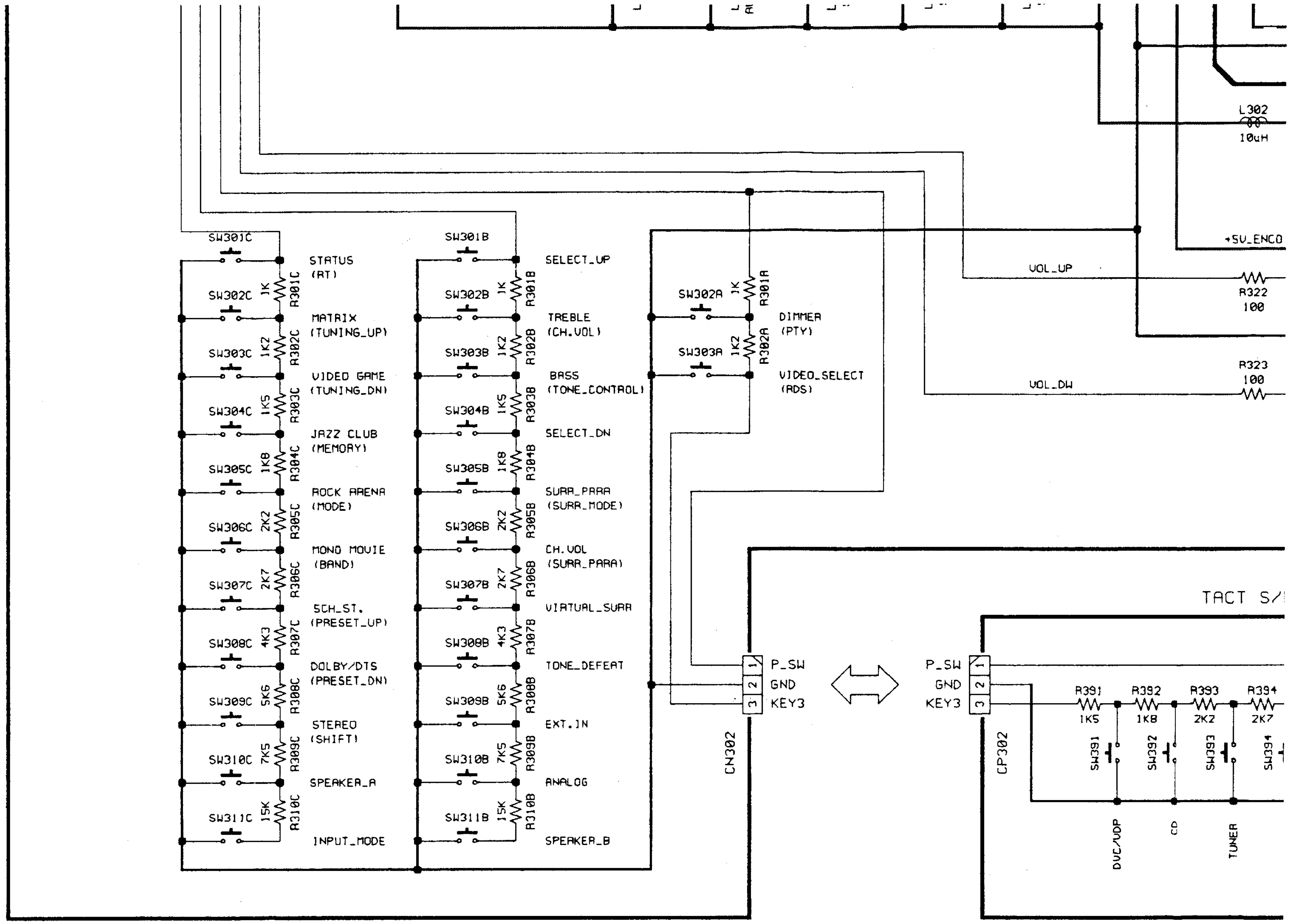
FRONT P.W.B. UNIT
TACT S/W P.W.B. UNIT
H/P & POWER S/W P.W.B. UNIT

# SCHEMATIC DIAGRAMS(6/7)

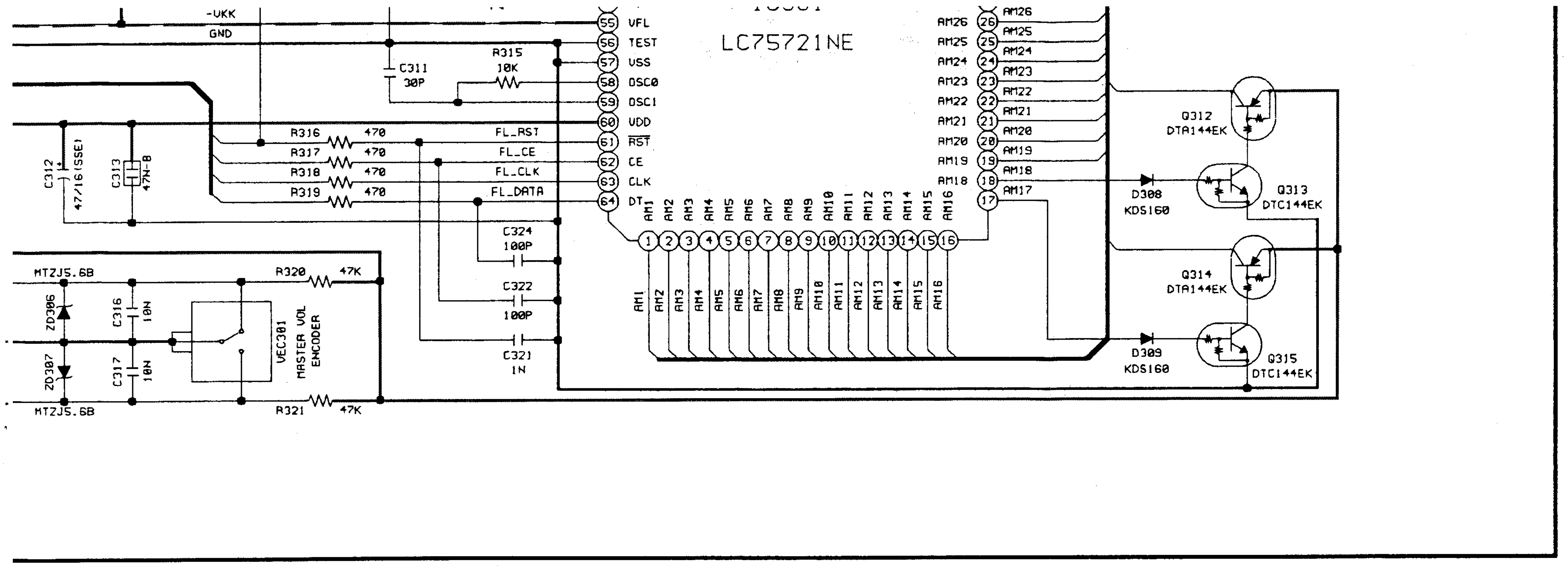


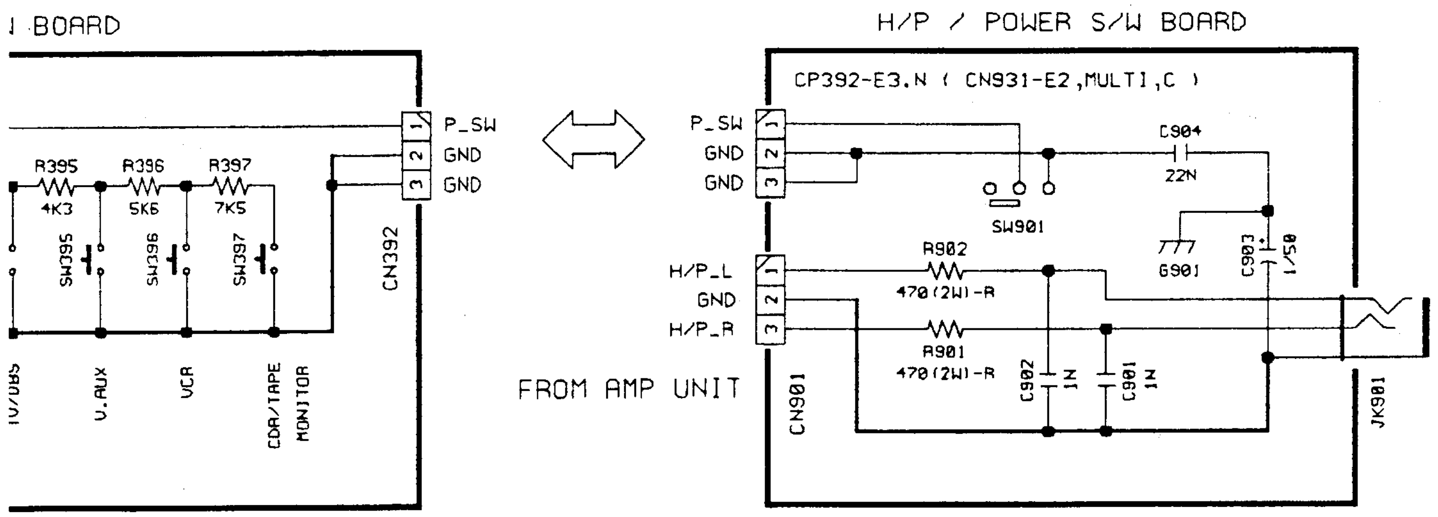
1
2
3
4
5
VOL_DW
VOL_UP
KEY_IN1
KEY_IN2
KEY_IN3
VOL_UP
VOL_DOWN
2090_DATA
FL_DRV/2090_CLK
FL_DRV_DATA
FL_DRV_CE
FL_DRV_RST
REMOCON
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
CP301A
TO CPU/VOL UNIT
C305
47/16(SSE)
C304
22N
C333
100P
R314 470
R313 470
IC302
BU2090F
2090_DATA
2090_CLK
AAC
AUTO-IN
ST'BY
SPK_B
SPK_A
DTS
PCM
D.DIGITAL
DIGITAL
C301
10/50
L301
100uH
ZD301
MTZJ6.8B
RMC301
REMOTE
C302
47N
C303
47/10
R311
10
D302
1SS133T
R305 680
LED305 AAC
R306 680
LED306 AUTO-IN
R307 680
LED307 ST'BY
R308 680
LED308 SPK_B
R309 680
LED309 SPK_A
R301 680
LED301 PCM-IN
R302 680
LED302 D.DIGITAL
R303 680
LED303 DTS-IN
R304 680
LED304 DTS-S
D303
1SS133T
D304
1SS133T


6
7
8
9
10
11
A
B
C
D
FIL1
OPEN
FIL2
FROM TRANS UNIT
CP303
FRONT BOARD
C306 100N-M
FL301
TUNED RDS
STEREO AUTO
REC
MULTI
PHONO UCR
CD -1
TUNER -2 -3
AUX V_AUX
DVD / MD /
VDP TAPE
-1
TV / DBS -2
CH
PRO LOGIC
DIGITAL
DIGITAL
ANALOG
RP01–RP38 56K
RG01 56K
C307 1/50
C308 47N-M
C309 47N-M
C310 1/50
C391 10N-R
G301
Q310 DTA144EK
Q311 DTC144EK
R332 4K7
D305 KDS160
-UKK
GND
IC301
LC75721NE
VFL
TEST
G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12 G13 G14 G15 G16
AA1 AA2 AA3
AM1–AM35


L302
10uH
+5V_ENCO
VOL_UP
R322
100
R323
100
VOL_DN
SW301C
STATUS
(RT)
1K
R301C
SW302C
MATRIX
(TUNING_UP)
1K2
R302C
SW303C
VIDEO GAME
(TUNING_DN)
1K5
R303C
SW304C
JAZZ CLUB
(MEMORY)
1K8
R304C
SW305C
ROCK ARENA
(MODE)
2K2
R305C
SW306C
MONO MOVIE
(BAND)
2K7
R306C
SW307C
5CH_ST.
(PRESET_UP)
4K3
R307C
SW308C
DOLBY/DTS
(PRESET_DN)
5K6
R308C
SW309C
STEREO
(SHIFT)
7K5
R309C
SW310C
SPEAKER_A
15K
R310C
SW311C
INPUT_MODE
SW301B
SELECT_UP
1K
R301B
SW302B
TREBLE
(CH.VOL)
1K2
R302B
SW303B
BASS
(TONE_CONTROL)
1K5
R303B
SW304B
SELECT_DN
1K8
R304B
SW305B
SURR_PARA
(SURR_MODE)
2K2
R305B
SW306B
CH.VOL
(SURR_PARA)
2K7
R306B
SW307B
VIRTUAL_SURR
4K3
R307B
SW308B
TONE_DEFEAT
5K6
R308B
SW309B
EXT.IN
7K5
R309B
SW310B
ANALOG
15K
R310B
SW311B
SPEAKER_B
SW302A
1K
R301A
DIMMER
(PTY)
SW303A
1K2
R302A
VIDEO_SELECT
(RDS)
P_SW
GND
KEY3
1
2
3
CN302
TACT S/
P_SW
GND
KEY3
CP302
R391
1K5
R392
1K8
R393
2K2
R394
2K7
SW391
SW392
SW393
SW394
DVD/VDP
CD
TUNER

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.


-UKK
GND
LC75721NE
C311
30P
R315
10K
55 VFL
56 TEST
57 VSS
58 OSC0
59 OSC1
60 VDD
61 RST
62 CE
63 CLK
64 DT
R316 470 FL_RST
R317 470 FL_CE
R318 470 FL_CLK
R319 470 FL_DATA
C312 47/16(SSE)
C313 47N-B
C324 100P
C322 100P
C321 1N
AM1 AM2 AM3 AM4 AM5 AM6 AM7 AM8 AM9 AM10 AM11 AM12 AM13 AM14 AM15 AM16
AM17 AM18 AM19 AM20 AM21 AM22 AM23 AM24 AM25 AM26
MTZJ5.6B
ZD306
ZD307
C316 10N
C317 10N
VEC301 MASTER VOL ENCODER
R320 47K
R321 47K
MTZJ5.6B
Q312 DTA144EK
Q313 DTC144EK
D308 KDS160
Q314 DTA144EK
Q315 DTC144EK
D309 KDS160


BOARD
R395 4K3
R396 5K6
R397 7K5
SW395
SW396
SW397
V.AUX
VCR
CDR/TAPE MONITOR
CN392
P_SW
GND
GND
H/P / POWER S/W BOARD
CP392-E3.N ( CN931-E2,MULTI,C )
P_SW
GND
GND
SW901
C904 22N
G901
C903 1/50
H/P_L
GND
H/P_R
R902 470(2W)-R
R901 470(2W)-R
C902 1N
C901 1N
FROM AMP UNIT
CN901
JK901

———— + B LINE

— — — – B LINE

WARNING:

Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

# SCHEMATIC DIAGRAMS(6/7)

FRONT P.W.B. UNIT
TACT S/W P.W.B. UNIT
H/P & POWER S/W P.W.B. UNIT

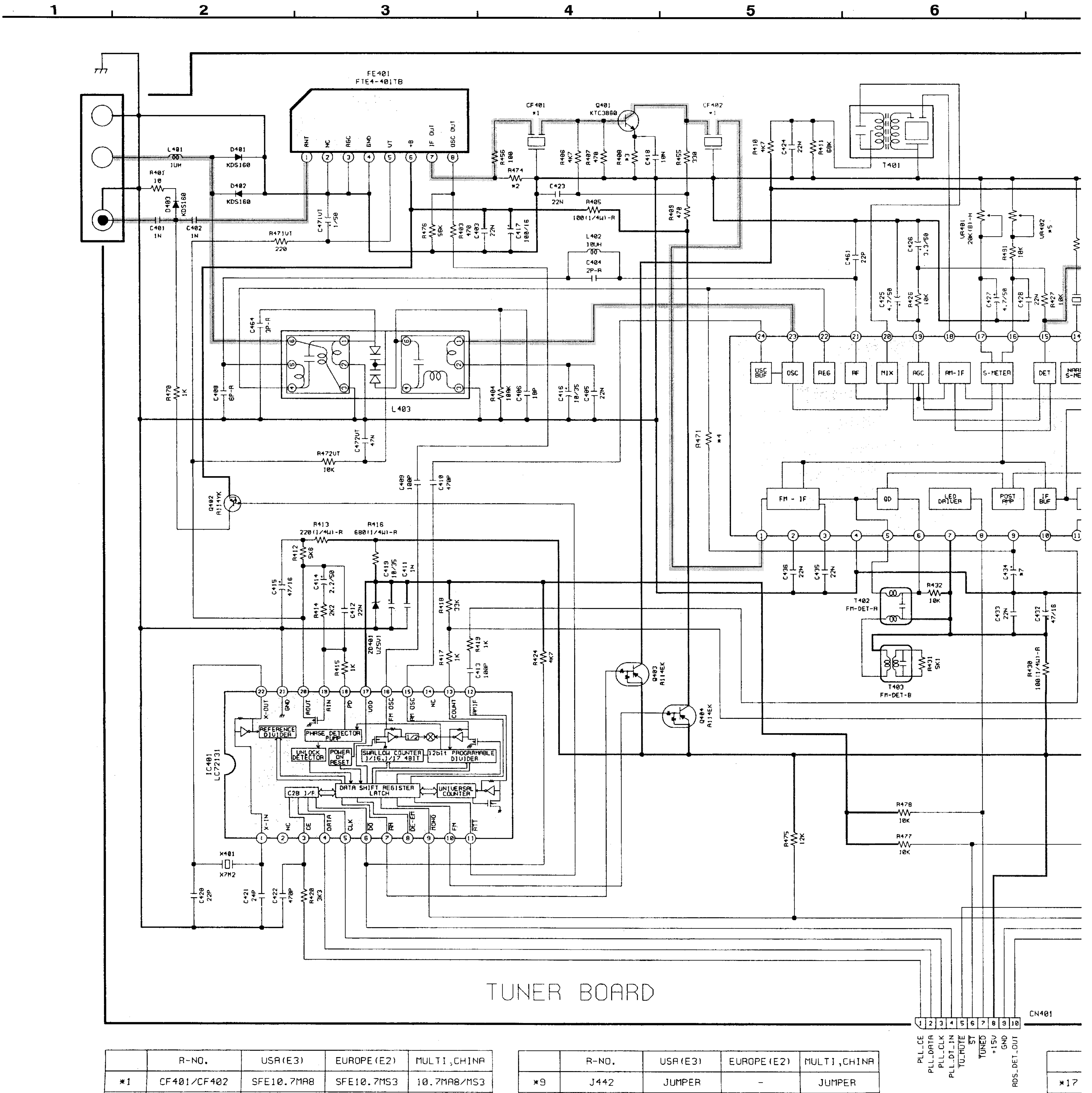
E

F

G

H

# SCHEMATIC DIAGRAMS(7/7)


1
2
3
4
5
6
FE401
FTE4-401TB
ANT
NC
AGC
GND
VT
+B
IF OUT
OSC OUT
CF401
*1
Q401
KTC3880
CF402
*1
T401
L401
1UH
D401
KDS160
D402
KDS160
D403
KDS160
R401
10
C401
1N
C402
1N
R471UT
220
C471UT
1/50
R456
100
R474
*2
C423
22N
R405
100(1/4W)-R
L402
10UH
C404
2P-R
R406
4K7
R407
*3
R408
*3
C418
10N
R455
330
R409
470
R410
4K7
C424
22N
R411
68K
R476
56K
R403
470
C403
22N
C417
100/16
C461
22P
C426
3.3/50
VR401
20K(B)-H
VR402
*5
R431
10K
C425
4.7/50
R426
10K
C427
4.7/50
C428
22N
R427
10K
C464
3P-R
L403
R470
1K
C408
6P-R
R404
10K
C406
18P
C416
10/35
C405
22N
C472UT
47N
R472UT
10K
R471
*4
OSC BUF
OSC
REG
RF
MIX
AGC
AM-IF
S-METER
DET
FM - IF
QD
LED DRIVER
POST AMP
IF BUF
Q402
A1144K
R413
220(1/4W)-R
R416
680(1/4W)-R
C409
100P
C410
470P
R412
5K6
C415
47/16
C414
2.2/50
R414
2K2
C412
22N
C419
10/35
C411
1N
ZD401
UZ5U1
R418
33K
R415
1K
R417
1K
R419
1K
C413
100P
R424
4K7
Q403
A1144K
Q404
A1144K
C436
22N
C435
22N
T402
FM-DET-A
R432
10K
C434
*7
C433
22N
C432
47/16
T403
FM-DET-B
R431
5K1
R430
100(1/4W)-R
IC401
LC72131
X-OUT
GND
AOUT
AIN
PD
VDD
FM OSC
AM OSC
NC
COUNT
AMIF
REFERENCE DIVIDER
PHASE DETECTOR PUMP
UNLOCK DETECTOR
POWER ON RESET
SWALLOW COUNTER 1/16,1/17 4BIT
12bit PROGRAMMABLE DIVIDER
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
C2B I/F
X-IN
NC
CE
DATA
CLK
DO
AM
DE-EM
MONO
FM
ATT
X401
X7M2
C420
22P
C421
24P
C422
470P
R428
3K3
R478
10K
R477
10K
R475
12K
TUNER BOARD
CN401
PLL_CE
PLL_DATA
PLL_CLK
PLL_DT_IN
TU_MUTE
ST
TUNED
+15V
GND
RDS_DET_OUT

| | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *1 | CF401/CF402 | SFE10.7MA8 | SFE10.7MS3 | 10.7MA8/MS3 |
| *2 | R474 | - | 180 | - |
| *3 | R407/R408 | 470/1.2K | 620/680 | 620/1.2K |
| *4 | R471 | 18K | 39K | 39K |
| *5 | VR402 | 50KB | 100KB | 50KB |
| *6 | R428 | 3.3K | 10K | 6.8K |
| *7 | C434 | 1/50 | 0.33/50 | 0.33/50 |
| *8 | R473 | - | 2.4K | - |

| | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *9 | J442 | JUMPER | - | JUMPER |
| *10 | T406 | - | ANTI-BIRDIE | - |
| *11 | C462 | - | 470P | - |
| *12 | R472 | - | 100 | - |
| *13 | Q409 | - | KTC3880 | - |
| *14 | R449 | - | 3.9K | - |
| *15 | R450 | - | 1K | - |
| *16 | R438,R439 | 100K | 150K | 100K |

| |
|---|
| *17 |
| *18 |
| *19 |
| *20 |
| *21 |
| *22 |
| *23 |
| *24 |

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
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## WARNING:

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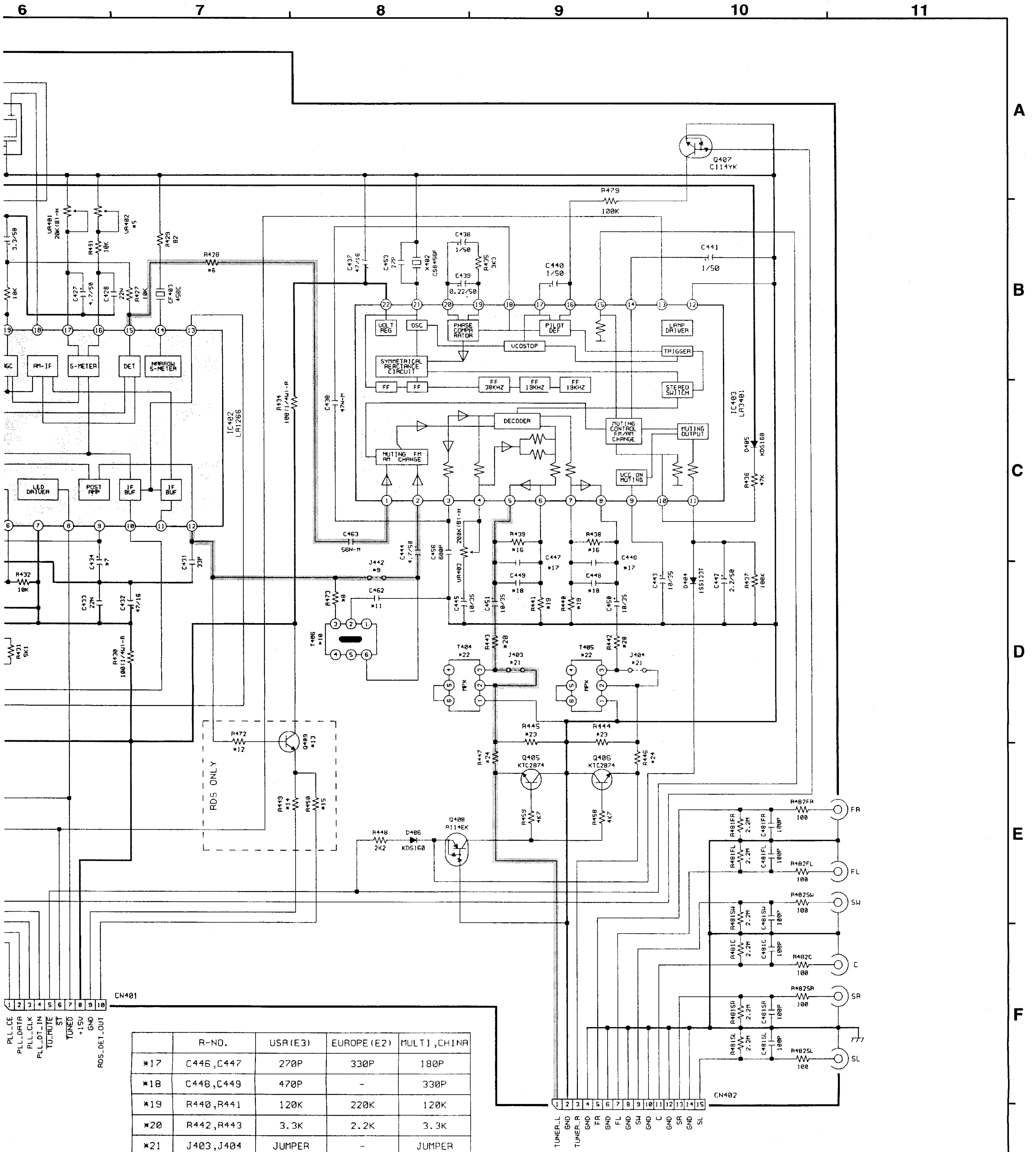
Use ONLY replacement parts recommended by the manufacture.

## CAUTION:

Before returning the unit to the customer, make sure you make either (1
leakage current check or (2) a line to chassis resistance check. If the le
current exceeds 0.5 milliamps, or if the resistance from chassis to eithe
of the power card is less than 460kohms, the unit is defective.

## WARNING:

DO NOT return the unit to the customer until the problem is located anc
corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
H
Q407
C114YK
R479
100K
C438
1/50
C439
0.22/50
C441
1/50
C440
1/50
C437
47/16
C453
27P
X402
CSB456F
R435
3K3
VR401
20K(B)-H
VR402
*5
R431
10K
R429
82
R428
*6
C427
4.7/50
C428
22N
R427
10K
CF403
450C
VOLT REG
OSC
PHASE COMPA RATOR
PILOT DET
LAMP DRIVER
VCOSTOP
TRIGGER
SYMMETRICAL REACTANCE CIRCUIT
FF
FF 38KHZ
FF 19KHZ
FF 19KHZ
STEREO SWITCH
DECODER
MUTING CONTROL FM/AM CHANGE
MUTING OUTPUT
MUTING FM AM CHANGE
VCC ON MUTING
IC403
LA3401
IC402
LA1266
R434
100(1/4W)-R
C430
47N-M
D405
KDS160
R436
47K
AM-IF
S-METER
DET
NARROW S-METER
LED DRIVER
POST AMP
IF BUF
IF BUF
C463
56N-M
J442
*9
C444
4.7/50
C456
680P
VR403
200K(B)-H
R439
*16
R438
*16
C447
*17
C446
*17
C449
*18
C448
*18
C443
10/35
D404
1SS133T
C442
2.2/50
R437
100K
C434
*7
C431
33P
R432
10K
C433
22N
C432
47/16
R473
*8
C462
*11
C445
10/35
C451
10/35
R441
*19
R440
*19
C450
10/35
R431
5K1
R430
100(1/4W)-R
T406
*10
T404
*22
T405
*22
R443
*20
R442
*20
J403
*21
J404
*21
MPX
MPX
R445
*23
R444
*23
R447
*24
R446
*24
Q405
KTC2874
Q406
KTC2874
R453
4K7
R458
4K7
R472
*12
Q409
*13
RDS ONLY
R449
*14
R450
*15
Q408
RI14EK
R448
2K2
D406
KDS160
R482FR
100
FR
R481FR
2.2M
C481FR
100P
R481FL
2.2M
C481FL
100P
R482FL
100
FL
R482SW
100
SW
R481SW
2.2M
C481SW
100P
R481C
2.2M
C481C
100P
R482C
100
C
R482SR
100
SR
R481SR
2.2M
C481SR
100P
R481SL
2.2M
C481SL
100P
R482SL
100
SL
CN401
PLL_CE
PLL_DATA
PLL_CLK
PLL_DT_IN
TU_MUTE
ST
TUNED
+15V
GND
RDS_DET_OUT
CN402
TUNER_L
GND
TUNER_R
GND
FR
GND
FL
GND
SW
GND
C
GND
SR
GND
SL

| | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *17 | C446,C447 | 270P | 330P | 180P |
| *18 | C448,C449 | 470P | - | 330P |
| *19 | R440,R441 | 120K | 220K | 120K |
| *20 | R442,R443 | 3.3K | 2.2K | 3.3K |
| *21 | J403,J404 | JUMPER | - | JUMPER |
| *22 | T404,T405 | - | LPF(MPX) | - |
| *23 | R444,R445 | 8.2K | 3.3K | 8.2K |
| *24 | R446,R447 | JUMPER | 470 | JUMPER |

——— + B LINE

▨ SIGNAL LINE

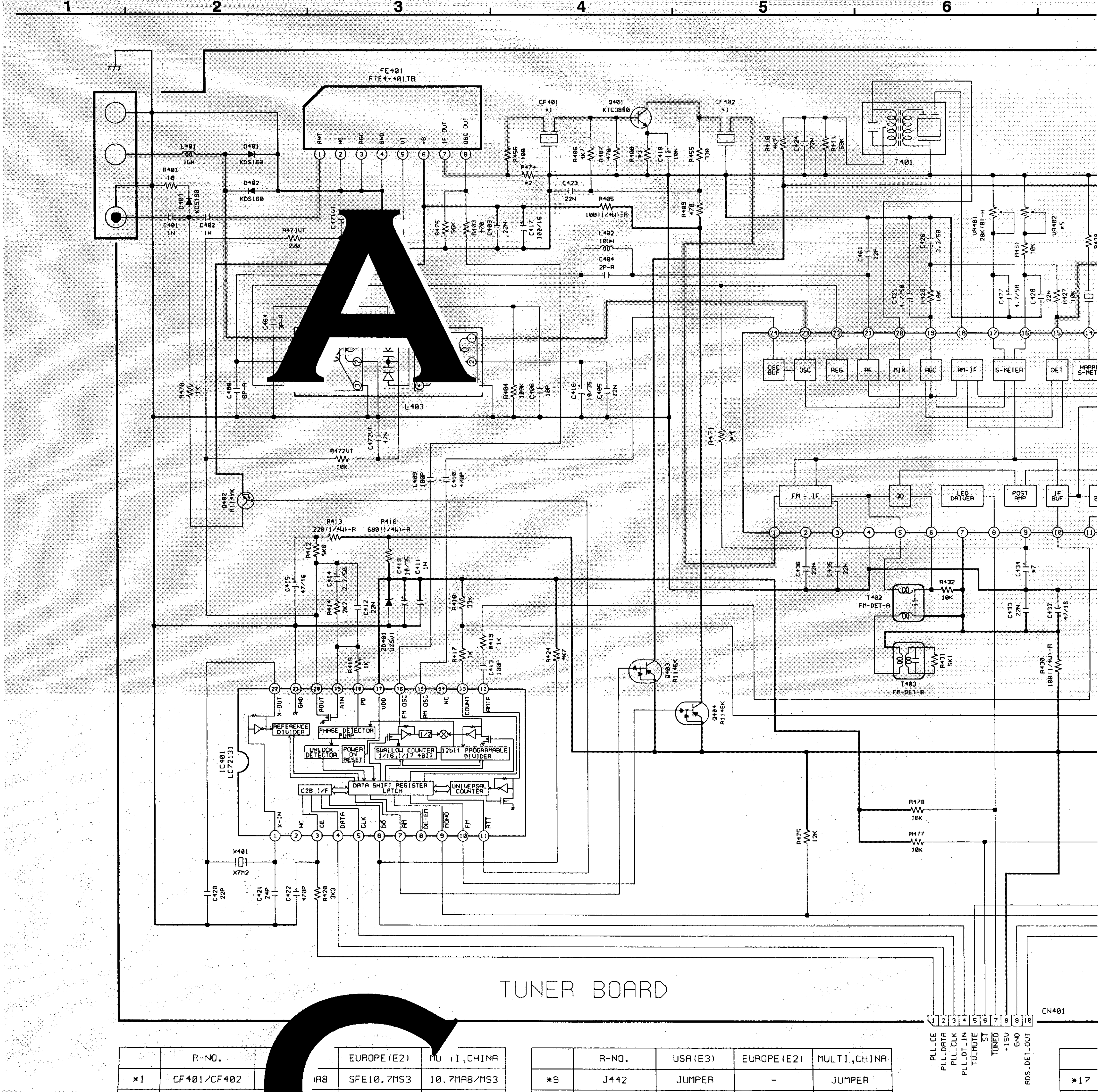
▢ have critical characteristics.
nmended by the manufacture.

tomer, make sure you make either (1) a
to chassis resistance check. If the leakage
the resistance from chassis to either side
ohms, the unit is defective.

omer until the problem is located and

## SCHEMATIC DIAGRAMS(7/7)
TUNER P.W.B. UNIT

## SCHEMATIC DIAGRAMS(7/7)


1
2
3
4
5
6
A
FE401
FTE4-401TB
ANT
NC
AGC
GND
VT
+B
IF OUT
OSC OUT
L401
1UH
D401
KDS160
D402
KDS160
R401
10
D403
KDS160
C401
1N
C402
1N
R471UT
220
C471UT
CF401
*1
Q401
KTC3880
CF402
*1
R456
100
R474
*2
R406
4K7
R407
470
R408
*3
C418
10N
R455
330
C423
22N
R405
100(1/4W)-R
R409
470
R410
4K7
C424
22N
R411
68K
T401
VR401
20K(B)-H
R491
10K
VR402
*5
L402
10UH
C404
2P-R
C464
3P-R
R476
56K
R403
470
C403
22N
C417
100/16
C461
22P
C426
3.3/50
C425
4.7/50
R426
10K
C427
4.7/50
C428
22N
R427
10K
OSC BUF
OSC
REG
RF
MIX
AGC
AM-IF
S-METER
DET
S-MET
R470
1K
C408
6P-R
L403
R404
100K
C406
18P
C416
10/35
C405
22N
C472UT
47N
R472UT
10K
R471
*4
Q402
A114YK
C409
100P
C410
470P
FM - IF
QD
LED DRIVER
POST AMP
IF BUF
R413
220(1/4W)-R
R416
680(1/4W)-R
R412
5K6
C415
47/16
C414
2.2/50
C419
10/35
C411
1N
R414
2K2
C412
22N
ZD401
UZ5U1
R418
33K
R415
1K
R417
1K
R419
1K
C413
10P
R424
4K7
Q403
A114EK
Q404
A114EK
C436
22N
C435
22N
C434
*7
R432
10K
T402
FM-DET-A
C433
22N
C432
47/16
T403
FM-DET-B
R431
5K1
R430
100(1/4W)-R
X-OUT
GND
AOUT
AIN
PD
VDD
FM OSC
AM OSC
NC
COUNT
AMIF
REFERENCE DIVIDER
PHASE DETECTOR PUMP
UNLOCK DETECTOR
POWER ON RESET
SWALLOW COUNTER 1/16,1/17 4BIT
12bit PROGRAMMABLE DIVIDER
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
C2B I/F
IC401
LC72131
X-IN
NC
CE
DATA
CLK
DO
AM
DE-EM
MONO
FM
ATT
X401
X7M2
C420
22P
C421
24P
C422
470P
R428
3K3
R478
10K
R477
10K
R475
12K
TUNER BOARD
CN401
PLL_CE
PLL_DATA
PLL_CLK
PLL_DT_IN
TU_MUTE
ST
TUNED
+15V
GND
RDS_DET_OUT
C

| | R-NO. | [illegible] | EUROPE(E2) | MU[illegible]I,CHINA |
|---|---|---|---|---|
| *1 | CF401/CF402 | [illegible]A8 | SFE10.7MS3 | 10.7MA8/MS3 |
| *2 | R474 | [illegible] | 180 | - |
| *3 | R407/R408 | [illegible] | 620/680 | [illegible]20/1.2K |
| *4 | R471 | [illegible] | 39K | [illegible]9K |
| *5 | VR402 | 50KB | [illegible] | 50KB |
| *6 | R428 | 3.3K | 10K | 6.8K |
| *7 | C434 | 1/50 | 0.33/50 | 0.33/50 |
| *8 | R473 | - | 2.4K | - |

| | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *9 | J442 | JUMPER | - | JUMPER |
| *10 | T406 | - | ANTI-BIRDIE | - |
| *11 | C462 | - | 470P | - |
| *12 | R472 | - | 100 | - |
| *13 | Q409 | - | KTC3880 | - |
| *14 | R449 | - | 3.9K | - |
| *15 | R450 | - | 1K | - |
| *16 | R438,R439 | 100K | 150K | 100K |

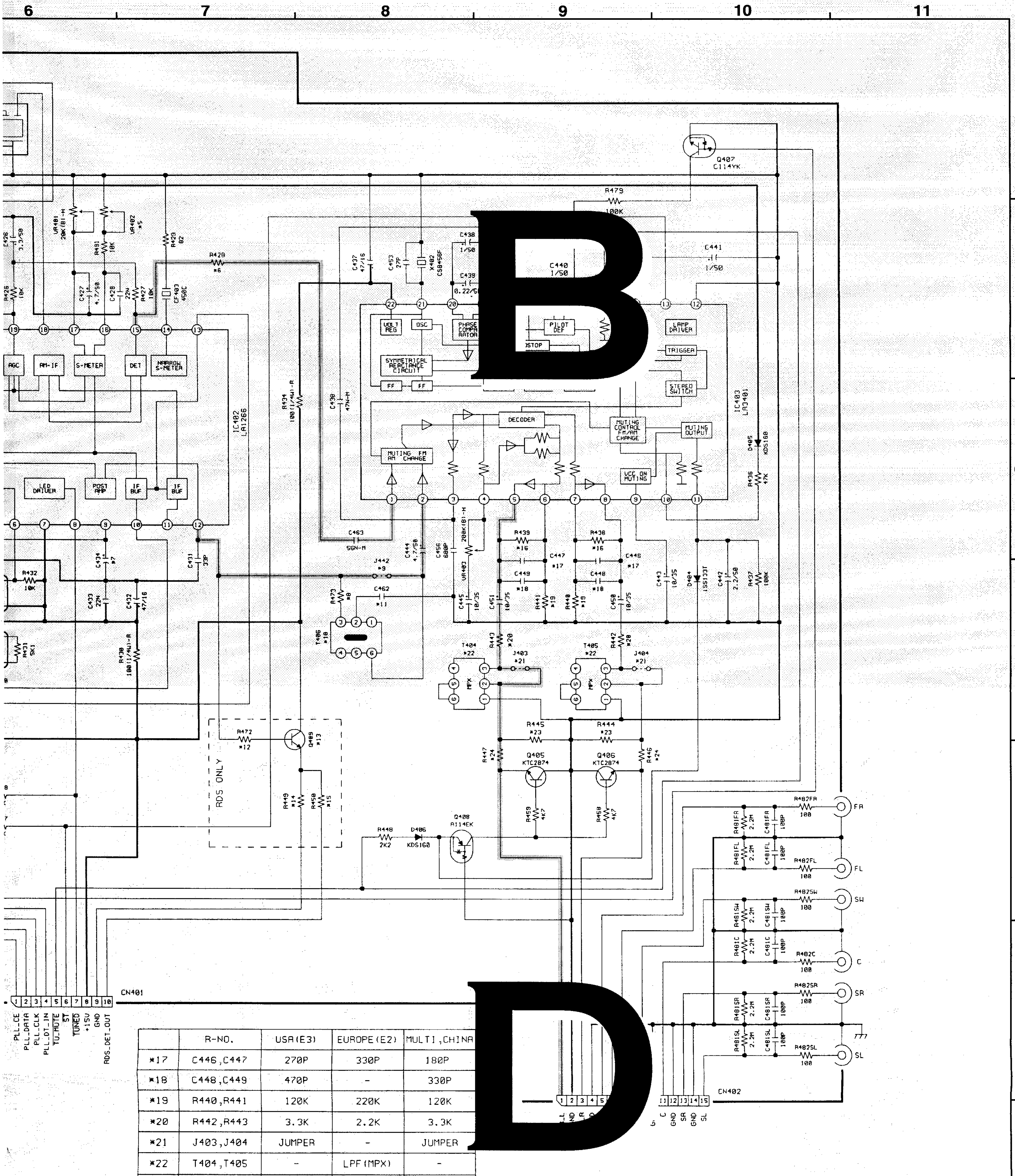
| |
|---|
| *17 |
| *18 |
| *19 |
| *20 |
| *21 |
| *22 |
| *23 |
| *24 |

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) leakage current check or (2) a line to chassis resistance check. If the lea current exceeds 0.5 milliamps, or if the resistance from chassis to either of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.


6
7
8
9
10
11
A
B
C
D
E
F
G
B
D
Q407
C114YK
R479
100K
C441
1/50
C440
1/50
C438
1/50
C439
0.22/50
C437
47/16
C453
27P
X402
CSB456F
VR401
20K(B)-H
VR402
R491
10K
R429
82
R428
C426
3.3/50
R426
10K
C427
4.7/50
C428
22N
R427
10K
CF403
450C
AGC
AM-IF
S-METER
DET
NARROW S-METER
VOLT REG
OSC
PHASE COMPARATOR
SYMMETRICAL REACTANCE CIRCUIT
FF
PILOT DET
LAMP DRIVER
TRIGGER
STEREO SWITCH
DECODER
MUTING FM AM CHANGE
MUTING CONTROL FM/AM CHANGE
MUTING OUTPUT
VCC ON MUTING
IC403
LA3401
IC402
LA1266
LED DRIVER
POST AMP
IF BUF
R431
100(1/4W)-R
C430
47N-H
C463
56N-M
J442
C444
4.7/50
C456
680P
VR403
20K(B)-H
C462
R473
T406
T404
T405
MPX
J403
J404
R439
R438
C447
C446
C449
C448
C445
10/35
C451
10/35
R441
R440
C450
10/35
C443
10/35
D404
1SS133T
C442
2.2/50
R437
100K
R436
47K
D405
KDS160
R443
R442
R445
R444
R447
R446
Q405
KTC2874
Q406
KTC2874
R459
4K7
R458
4K7
R472
Q409
RDS ONLY
R449
R450
R448
2K2
D406
KDS160
Q408
A114EK
C434
C431
33P
R432
10K
C433
22N
C432
47/16
R430
100(1/4W)-R
R431
5K1
CN401
PLL_CE
PLL_DATA
PLL_CLK
PLL_DT_IN
TU_MUTE
ST
TUNED
+15V
GND
RDS_DET_OUT
R481FR
2.2M
C481FR
100P
R482FR
100
FR
R481FL
C481FL
R482FL
FL
R481SW
C481SW
R482SW
SW
R481C
C481C
R482C
C
R481SR
C481SR
R482SR
SR
R481SL
C481SL
R482SL
SL
CN402
GND

|  | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *17 | C446,C447 | 270P | 330P | 180P |
| *18 | C448,C449 | 470P | - | 330P |
| *19 | R440,R441 | 120K | 220K | 120K |
| *20 | R442,R443 | 3.3K | 2.2K | 3.3K |
| *21 | J403,J404 | JUMPER | - | JUMPER |
| *22 | T404,T405 | - | LPF(MPX) | - |
| *23 | R444,R445 | 8.2K | 3.3K | 8.2K |
| *24 | R446,R447 | JUMPER | 470 | JUMPER |

—— +B LINE

▨ SIGNAL LINE

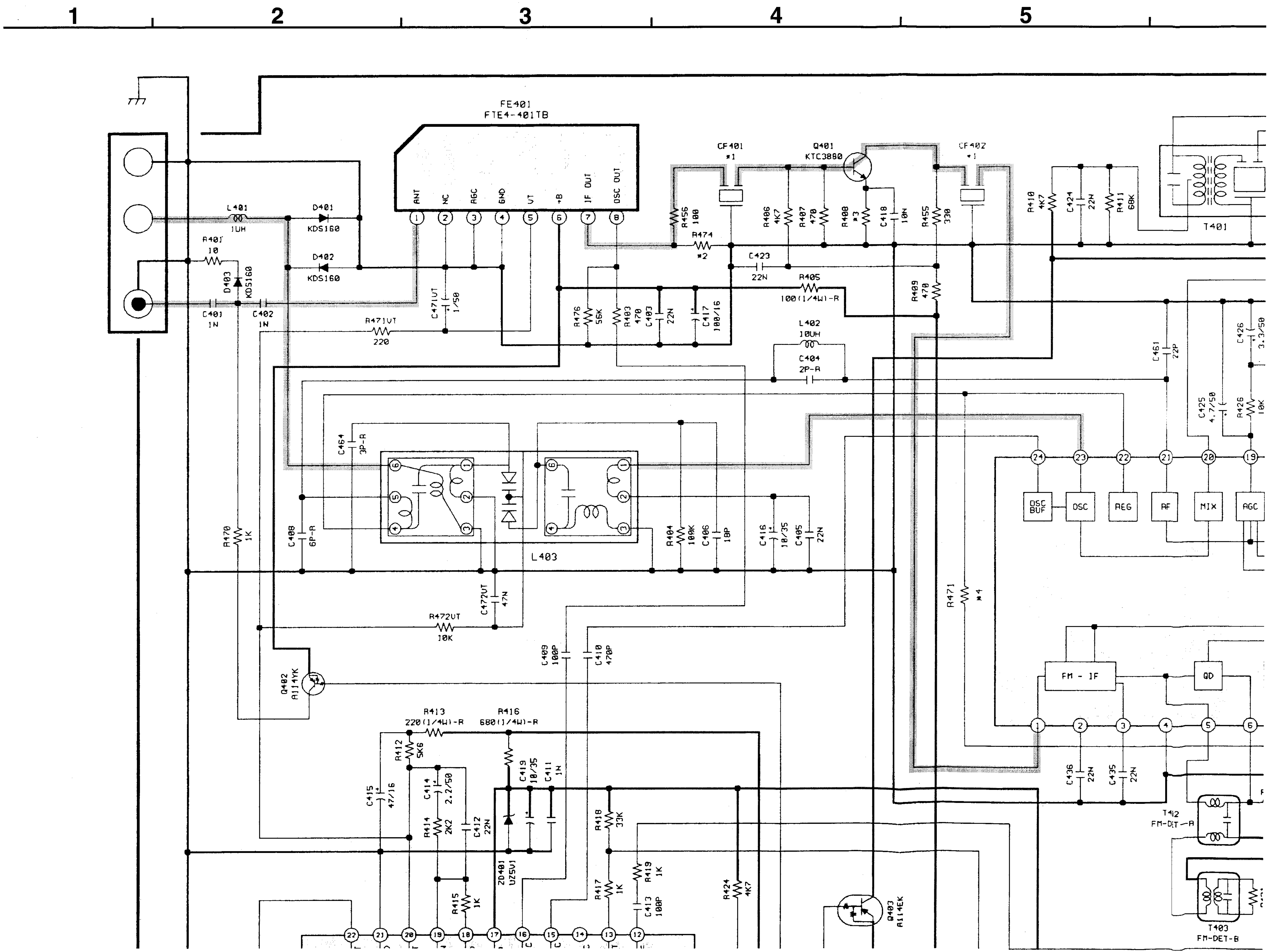
▨ have critical characteristics.
ommended by the manufacture.

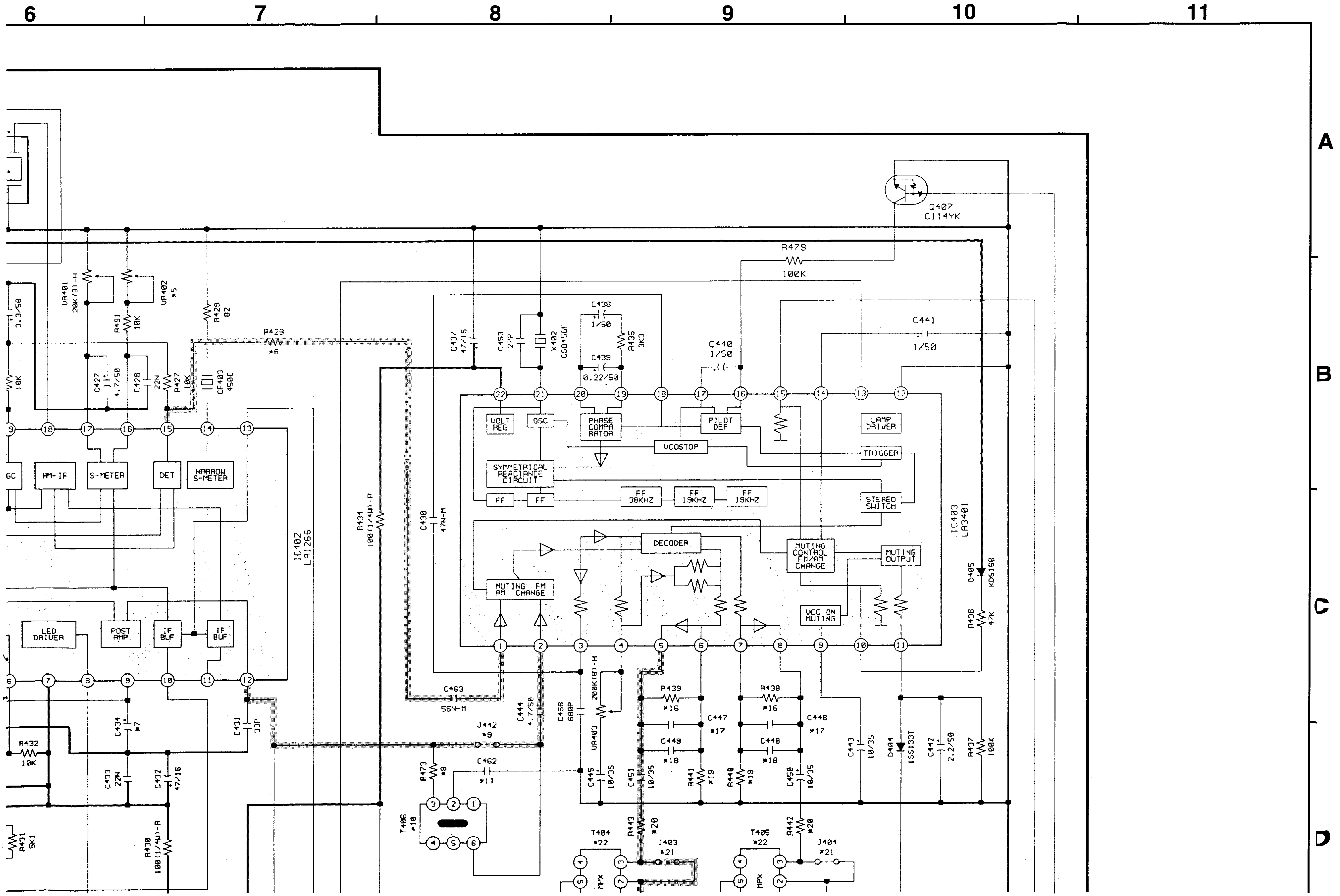
istomer, make sure you make either (1) a
e to chassis resistance check. If the leakage
if the resistance from chassis to either side
)kohms, the unit is defective.

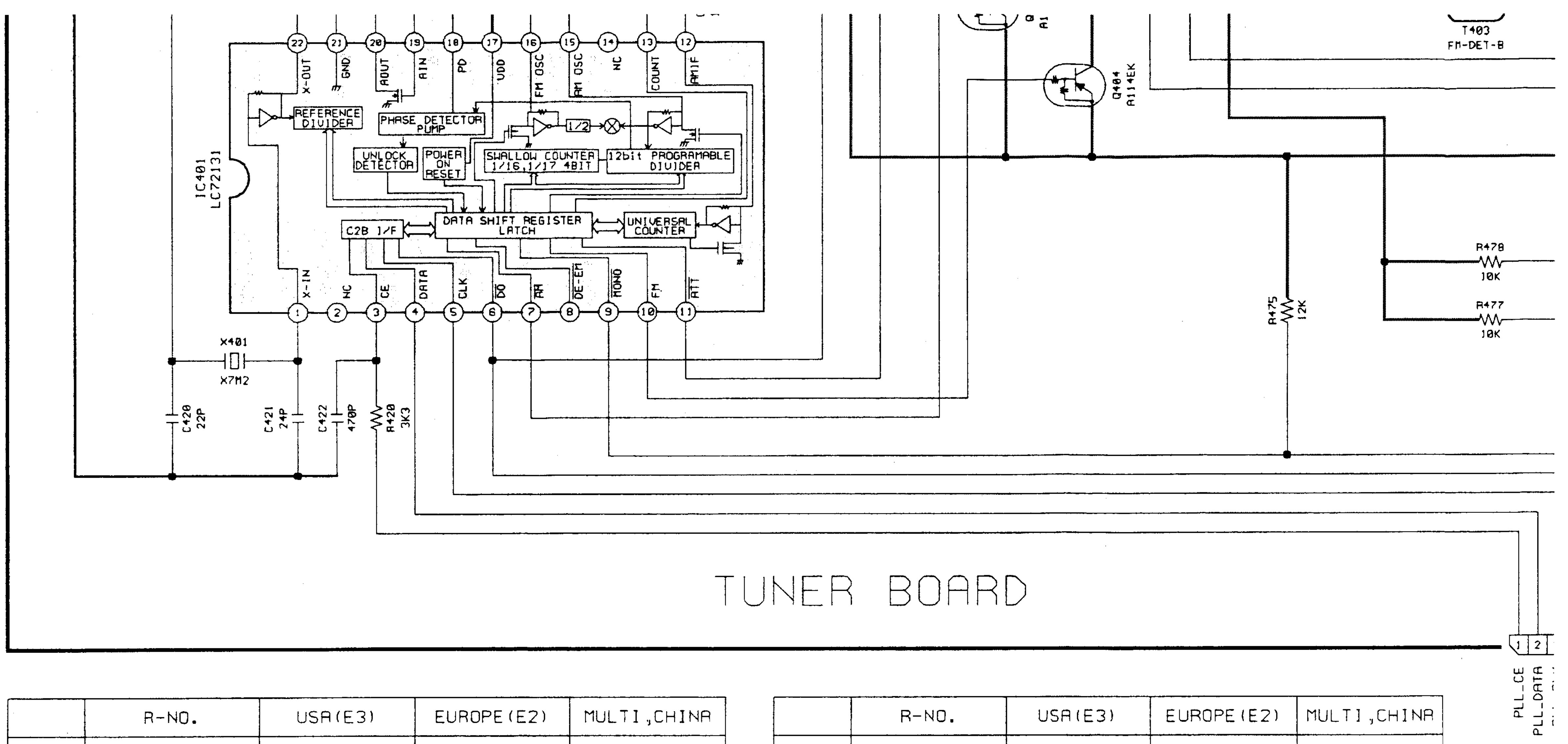
stomer until the problem is located and

## SCHEMATIC DIAGRAMS(7/7)
TUNER P.W.B. UNIT

# SCHEMATIC DIAGRAMS(7/7)


1
2
3
4
5
FE401
FTE4-401TB
ANT
NC
AGC
GND
VT
+B
IF OUT
OSC OUT
L401
1UH
D401
KDS160
D402
KDS160
D403
KDS160
R401
10
C401
1N
C402
1N
R471UT
220
C471UT
1/50
R476
56K
R403
470
C403
22N
C417
100/16
CF401
*1
Q401
KTC3880
CF402
*1
R456
100
R474
*2
R406
4K7
R407
470
R408
*3
C418
10N
R455
330
C423
22N
R405
100(1/4W)-R
R409
470
L402
10UH
C404
2P-R
R410
4K7
C424
22N
R411
68K
T401
C461
22P
C426
3.3/50
C425
4.7/50
R426
10K
C464
3P-R
C408
6P-R
R470
1K
L403
R404
100K
C406
10P
C416
10/35
C405
22N
C472UT
47N
R472UT
10K
R471
*4
C409
100P
C410
470P
Q402
A114YK
R413
220(1/4W)-R
R416
680(1/4W)-R
R412
5K6
C415
47/16
C414
2.2/50
R414
2K2
C412
22N
C419
10/35
C411
1N
ZD401
UZ5V1
R415
1K
R418
33K
R417
1K
R419
1K
C413
100P
R424
4K7
Q403
A114EK
OSC BUF
OSC
REG
RF
MIX
AGC
FM - IF
QD
C436
22N
C435
22N
T412
FM-DIT-A
T403
FM-DET-B


6
7
8
9
10
11
A
B
C
D
Q407
C114YK
R479
100K
VR401
20K(B)-H
VR402
*5
R491
10K
R429
82
R428
*6
3.3/50
10K
C427
4.7/50
C428
22N
R427
10K
CF403
450C
C437
47/16
C453
27P
X402
CSB456F
C438
1/50
R435
3K3
C439
0.22/50
C440
1/50
C441
1/50
VOLT REG
OSC
PHASE COMPA RATOR
PILOT DET
LAMP DRIVER
VCOSTOP
TRIGGER
SYMMETRICAL REACTANCE CIRCUIT
FF
FF
FF 38KHZ
FF 19KHZ
FF 19KHZ
STEREO SWITCH
GC
AM-IF
S-METER
DET
NARROW S-METER
IC402
LA1266
R434
100(1/4W)-R
C430
47N-M
IC403
LA3401
DECODER
MUTING CONTROL FM/AM CHANGE
MUTING OUTPUT
MUTING FM AM CHANGE
VCC ON MUTING
D405
KDS160
R436
47K
LED DRIVER
POST AMP
IF BUF
IF BUF
C463
56N-M
J442
*9
C444
4.7/50
C456
680P
VR403
200K(B)-H
R439
*16
R438
*16
C447
*17
C446
*17
C449
*18
C448
*18
C443
10/35
D404
1SS133T
C442
2.2/50
R437
100K
C434
*7
C431
33P
R432
10K
C433
22N
C432
47/16
R473
*8
C462
*11
C445
10/35
C451
10/35
R441
*19
R440
*19
C450
10/35
R443
*20
R442
*20
T406
*10
T404
*22
T405
*22
J403
*21
J404
*21
MPX
MPX
R431
5K1
R430
100(1/4W)-R


X-OUT
GND
AOUT
AIN
PD
VDD
FM OSC
AM OSC
NC
COUNT
AMIF
REFERENCE DIVIDER
PHASE DETECTOR PUMP
1/2
UNLOCK DETECTOR
POWER ON RESET
SWALLOW COUNTER 1/16,1/17 4BIT
12bit PROGRAMABLE DIVIDER
C2B I/F
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
X-IN
NC
CE
DATA
CLK
DO
AM
DE-EM
MONO
FM
ATT
IC401
LC72131
X401
X7M2
C420
22P
C421
24P
C422
470P
R420
3K3
Q404
A114EK
T403
FM-DET-B
R478
10K
R477
10K
R475
12K
TUNER BOARD
PLL_CE
PLL_DATA

| | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *1 | CF401/CF402 | SFE10.7MA8 | SFE10.7MS3 | 10.7MA8/MS3 |
| *2 | R474 | - | 180 | - |
| *3 | R407/R408 | 470/1.2K | 620/680 | 620/1.2K |
| *4 | R471 | 18K | 39K | 39K |
| *5 | VR402 | 50KB | 100KB | 50KB |
| *6 | R428 | 3.3K | 10K | 6.8K |
| *7 | C434 | 1/50 | 0.33/50 | 0.33/50 |
| *8 | R473 | - | 2.4K | - |

| | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *9 | J442 | JUMPER | - | JUMPER |
| *10 | T406 | - | ANTI-BIRDIE | - |
| *11 | C462 | - | 470P | - |
| *12 | R472 | - | 100 | - |
| *13 | Q409 | - | KTC3880 | - |
| *14 | R449 | - | 3.9K | - |
| *15 | R450 | - | 1K | - |
| *16 | R438,R439 | 100K | 150K | 100K |

## NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
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leakage current check or (2) a line to cha
current exceeds 0.5 milliamps, or if the r
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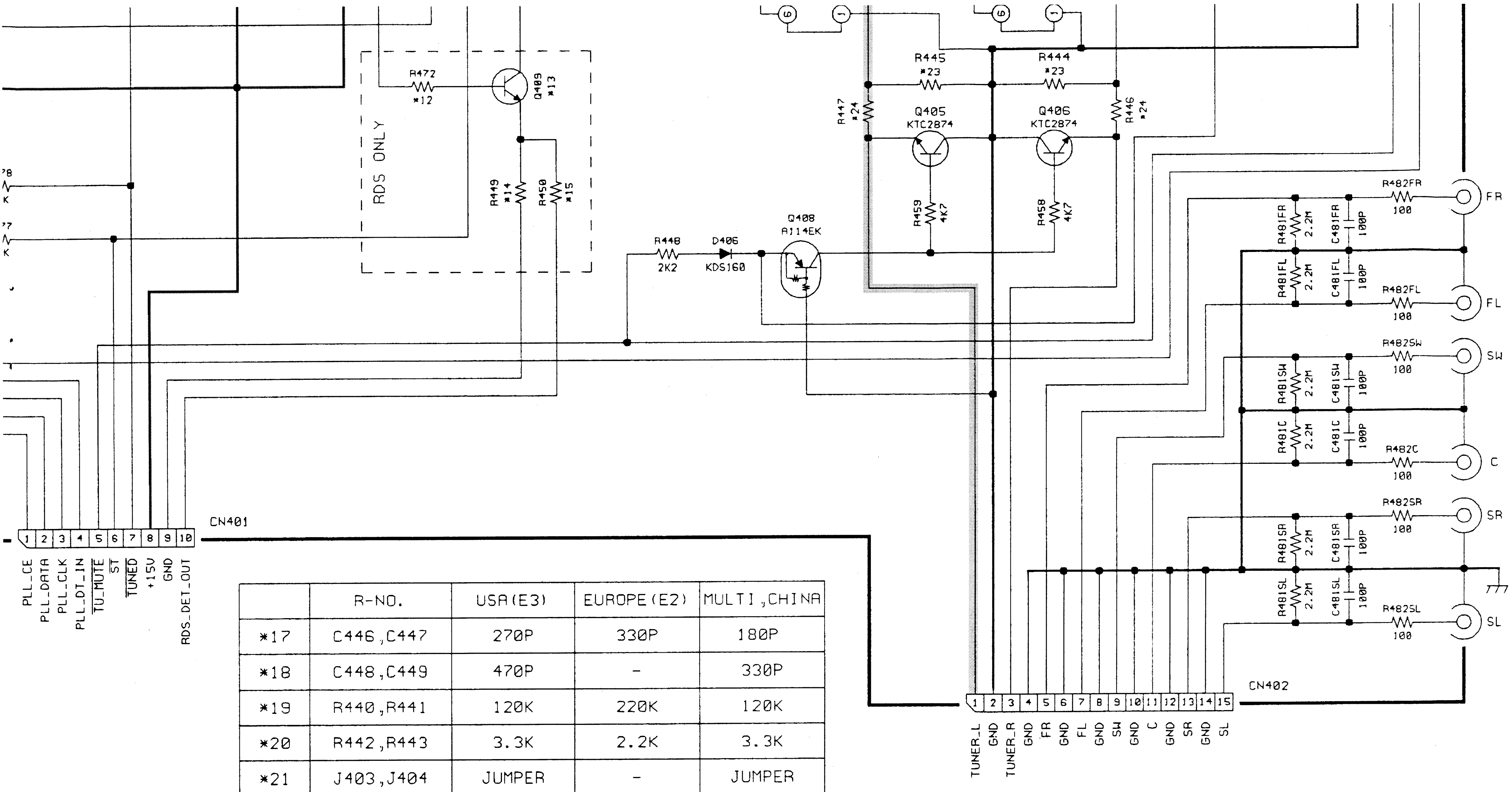
R472
*12
Q409
*13
RDS ONLY
R449
*14
R450
*15
R448
2K2
D406
KDS160
Q408
AJ14EK
R445
*23
R444
*23
R447
*24
R446
*24
Q405
KTC2874
Q406
KTC2874
R459
4K7
R458
4K7
R481FR
2.2M
C481FR
100P
R482FR
100
FR
R481FL
2.2M
C481FL
100P
R482FL
100
FL
R482SW
100
SW
R481SW
2.2M
C481SW
100P
R481C
2.2M
C481C
100P
R482C
100
C
R482SR
100
SR
R481SR
2.2M
C481SR
100P
R481SL
2.2M
C481SL
100P
R482SL
100
SL
CN401
1 2 3 4 5 6 7 8 9 10
PLL_CE
PLL_DATA
PLL_CLK
PLL_DT_IN
TU_MUTE
ST
TUNED
+15V
GND
RDS_DET_OUT
CN402
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
TUNER_L
GND
TUNER_R
GND
FR
GND
FL
GND
SW
GND
C
GND
SR
GND
SL
E
F
G
H

| | R-NO. | USA(E3) | EUROPE(E2) | MULTI,CHINA |
|---|---|---|---|---|
| *17 | C446,C447 | 270P | 330P | 180P |
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| *22 | T404,T405 | - | LPF(MPX) | - |
| *23 | R444,R445 | 8.2K | 3.3K | 8.2K |
| *24 | R446,R447 | JUMPER | 470 | JUMPER |

——— + B LINE

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▨ have critical characteristics.
ommended by the manufacture.

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# SCHEMATIC DIAGRAMS(7/7)
## TUNER P.W.B. UNIT